

SPANISH GEOGRAPHY ON
THE CHALLENGES OF
CONTEMPORARY SOCIETY

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SPANISH GEOGRAPHY ON THE CHALLENGES OF CONTEMPORARY SOCIETY

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PREFACE

SPAIN'S GEOGRAPHY BEFORE CURRENT SOCIAL CHALLENGES

IGU's Spanish Committee has decided to present to IGU 30th Congress, to be held in Glasgow, this collection of papers entitled *La Geografía española ante los retos de la sociedad actual* (Spain's Geography before Current Social Challenges). Question that has deep roots in our country. When I was looking through some issues of the *Boletín de la Institución Libre de Enseñanza*, I thought I had found those roots in Pestalozzi's clear influence and in Rousseau's darker vision, as shown by the Hegelian geographer, Karl Ritter, and his basic work *Allgemeine Vergleichende Erdkunde*. A work that so much impressed the Spanish Krausist crowd. The key essay to understand all of this is likely to be the work by David Gibbs, *Una ojeada histórica a los métodos de enseñanza de la geografía*, the Spanish version of which -translated by Ángel do Rego and published by one of the Institución Libre de Enseñanza-related publishing houses- explains the relationship.

The Real Sociedad Geográfica helped in establishing a context where this strong influence by the Institución Libre de Enseñanza could house, a building whose upper vertex was to be generated by an University Geography School. The issue was put forward with full details by the *Boletín de la Real Sociedad Geográfica*, as they attempted to alter former Facultad de Filosofía y Letras' curricula. The final and complete changes thus propounded would take some time to come. One of the main personalities working on this line was Eloy Bullón, as his essay published in 1933, *Estudios de Geografía de la Universidad de Madrid* shows. His was also the essay *El valor educativo de los servicios geográficos*.

All of this took place around seventy-five years ago. Spain's current reality is presented by Eugenio Burriel de Orueta in the opening article, to be completed by José Sancho Comins' paper, *Los estudios de geografía en titulaciones universitarias distintos a la licenciatura de Geografía* (Geography Tertiary Education in Non-Geography Degree Programs in Spain), and by Professor Valenzuela's excellent presentation, *La Geografía en los estudios de Tercer Ciclo en las Universidades españolas (1983-2004)* (Geography Doctoral Programs in Spanish Universities (1893-2004)). While no teaching aspects are ignored in this section on *La enseñanza de la Geografía en España* (Geography Teaching in Spain).

Naturally, scientific research must go on in Geography, helped by new technologies, such as Remote Sensing or Information Systems, and we are to know and be critically informed about what is going in Spain thanks to Joaquín Bosque Sendra and Emilio Chuvieco Salinero. Getting to know University Geography Departments' scientific production and its publication in specialized geographic journals complements the section on *La investigación geográfica* (Researching in Geography).

All our endeavours could have fallen down if it were not for the activities performed by several institutions that can not be praised highly enough. We only mention a few of them: the Centro Geográfico del Ejército; the Consejo Superior de Investigaciones Científicas; the ancient Real Sociedad Geográfica, founded in 1876 and very much related to the History of Spain since the beginning of the Spanish Restoration; the Institutos Cartográficos; the Asociación de Geógrafos Españoles, where a large number of Geography professionals are integrated, and the Sociedad Catalana de Geografia.

We come now to the scientific links with experts and researchers from other regions presented in section *La presencia internacional de la Geografía española* (An International Presence of the Spanish Geography): for many reasons that do not need much explanations, with experts from Ibero-America; followed by the paper on the scientific links with Europe -I have already referred to Germany but, what about our links with French or British geographers?--; and we can not ignore that Spanish geographers must research for any developing countries, as María Prats Ferret did. This section is completed with a very interesting paper by Pilar Riera, María Dolores García Ramón, Laia Olivert-Frauca and Ferrán Lavall, on opening to foreign researchers. If development is blinded by autarchy, it comes true relentlessly in any science, and geography is not an exception. The tale of how Spanish Geographic Science was opened is really valuable.

The last section refers to the process of Spanish Geography professionalization with four papers, that are also very useful to understand the changes suffered by the Spanish society in the last fifty years.

These accounts when properly made, as is our case, always present a credit and a debit. Our balance, however, is so positive that I wish to point out that it is worth of such a scientific platform as is IGU's 30th Congress, where by meeting our foreign colleagues we will also re-assess our credit and debit. This collaboration will result in our working with a new drive that ought to make our Geographic credit exceed so much our debit that Spanish geographers will be able to attend any future IGU Congresses really proud of their efforts.

Madrid, 16th July, 2004.

Juan Velarde Fuertes

I

GEOGRAPHY TEACHING IN SPAIN

THE STATE OF GEOGRAPHY IN THE SPANISH UNIVERSITY

EUGENIO L. BURRIEL DE ORUETA

INTRODUCTION

Within the last decade, the teaching of geography in Spanish universities has undergone enormous changes, placing the discipline in a position very different from that before the 1990s¹. It was then that a university degree in geography was first offered as an independent program in Spain, and that geography was recognized for its "genuine and independent character and its own features within the scientific universe" (López Ontiveros, 1992, 12). This meant designing new Curricula, not only with new geography courses (4 to 5 academic years of geography), but also aiming at introducing new subject matters. At the same time, the initial high increase in both the supply and demand for university-level geography programs -both in terms of the number of students, and territory covered –, was followed few years later by a quick drop.

This paper attempts to analyze these changes, focusing on the challenges that geography is facing today in the Spanish university context. Two factors are studied: on the one hand, supply and demand for university degrees of geography and, on the other hand, the most significant characteristics of present Curricula².

¹ A. López Ontiveros, in an analysis prepared for the Spanish Contribution to the 27th IGU Congress held in Washington DC (1992), pointed out the important process of re-structuring that was just then underway, saying "it will mean not just partially adjusting but changing the current model entirely" (Lopez Ontiveros, 1992, 3).

² This article relies to a great extent on Part III of the Libro Blanco para el diseño del título de grado de Geografía y Ordenación del Territorio, and its analysis of supply and demand for the Geography Degree and the current Curricula for the degree (Tulla, 2004, 67-126).

I. SUPPLY AND DEMAND FOR GEOGRAPHY IN THE SPANISH UNIVERSITY.

a) A very new Program Degree

Unlike other European experiences, geography at Spanish universities has not been an independent degree-program until the academic year 1993-94. Geography had been traditionally taught as part of the "*Filosofía y Letras*"³ degree program, and since 1974 in "Geography and History" degree (Bosque Maurel, 1992, 110)⁴. Therefore, geography has been traditionally linked to Arts rather than Sciences, almost exclusively oriented towards training high-school teachers. The function of geographers as non-teaching professionals has not developed in Spanish society until recent times.

As a result of the general reform of all university Curricula at the beginning of the 1990s, the Geography and History degree program was divided into four distinct careers: History, History of Art, History of the Americas, and Geography. The academic year 1993/94 witnessed the birth of the new geography degrees in Spanish universities; a total of 913 new students enrolled at the 13 universities then offering the Geography Degree (Méndez, 1996, 138). During the following years, both the number of students and the number of universities offering the Geography Degree grew until the 1998/99 academic year, when 2,140 students enrolled in the first year of the 26 geography programs available, reaching a total of 7,781 geography students in Spain.

b) A widely-scattered university supply

The current capacity for new students of geography in Spanish universities has been estimated to be 2,378 on average over the last two academic years (2002-03 and 2003-04)⁵. In response to this, there were a total of 865 geography university lecturers and other equivalent staff, 70% of which were permanent employees⁶. The total capacity of

³ Studies of "*Filosofía y Letras*" had two common courses with a single General Geography subject along with other "humanities" subjects (History, Classic Languages, Philosophy, Grammar and Literature). There were also other three specialisation courses in different fields, one of them being "*Geografía e Historia*". However, geography was very secondary in this specialisation course, "subordinated to the general guidelines of the learning of History" (Bosque Maurel, 1992, 91); only one "required" subject in each course (Physical Geography, Geography of Spain, Geography of the World) and a few more free subjects, the total number depending on each University. The degree achieved was "*Licenciado en Filosofía y Letras* (Philosophy and Arts), Sección *Geografía e Historia*" (Geography and History).

⁴ After the Reform of the Seventies, the old Section of "*Geografía e Historia*" became an independent 5-year degree with three initial common years for geography, history and history of art, and two years of specialization in which it was possible to study only geography. The title was "*Licenciado en Geografía e Historia*, Sección *Geografía*".

⁵ This is an estimate since only 15 universities establish limits to the number of students; the other 11 universities have an open offer for incoming students. For this reason an estimate has been developed that is equal to the mode of the group of universities that point out numbers of accessing places (see Annex 1)

⁶ Permanent employees are understood as: Tenured University Professors (*Catedráticos de Universidad*) 107, Tenured Assistant University Professors (*Titulares de Universidad*) 414, Tenured University-College Professors (*Catedráticos de Escuela Universitaria*) 15, and Tenured Assistant University-College Professors (*Titulares de Escuela Universitaria*) 61, assigned to various areas of geography. According to areas of competence, there were 299 professors in Regional Geographical Analysis, 212 in Physical Geography, and 354 in Human Geography (Source: INE. Statistics on Higher Education in Spain).

the discipline can be estimated around 10,000 students, which has not been reached in any academic year yet. The current offer can be assessed as sufficient in relation to the present demand, as will be seen later.

There are currently 26 universities offering the Geography Degree distributed throughout Spain (see Annex 1). The degree is offered in at least one program in each region (*Comunidad Autónoma*) except *La Rioja* and *Navarra*, and in two or more universities in six of them. There is not a significant correlation between the openings offered by the universities in each region, and its population (potential demand). The long history of certain universities and the political will to have a university in many of the regions and provinces, may explain in part the imbalances in supply. However, in all universities the supply of geography courses has been clearly greater than the number of students enrolled over the last two years.

Its traditional inclusion into *Filosofía y Letras* (Philosophy and Arts) at first, and later into History, made it possible to offer a large number of courses in geography. When the breakup of these studies into specialized degree programs happened, there were already a large number of geography professors in a great majority of the programs having "Geography Sections"⁷. In addition, this process coincided with the greatest increase of university students in Spain⁸.

Only in those universities lacking a tradition of a "Letras" (Arts) Program, or in those emerging later as "university-colleges" depending upon other universities, geography is not offered as a degree program. In the majority of these cases, geography is found basically within the "Humanities Degree"⁹. Courses in geography are also significant in the Environmental Sciences Degree program as well as the *Diplomatura en Turismo* (Bachelor Degree in Tourism).

c) A small degree program with a declining demand.

The creation of its own degree program in 1993-94 meant a rapid increase in the number of geography students in relation to the numbers of the former "Geography Section" in the "Geography and History" degree program; it reached the height of 7,995 students enrolled during the 1999-2000 academic year. Since then, the number of students dropped year after year; during the 2003-04 academic year, their number stood at 5,043, that is to say, 63% of those of four years prior (see Table 1).

This drop in demand appears also in the majority of traditional university subjects: mathematics, physics, chemistry, law, and philology have also seen a similar descend. However, since they already had a great number of students, they continue to have significant numbers. Causes of this general drop in relation to traditional subjects are, on the one hand, the arrival of ever-smaller generations of students coming to the universities because of the drop in fertility rates since 1977; on the other hand, the appearance of new university degree programs (i.e. Environmental Sciences, Audio-visual commu-

⁷ There were more than 160 university professors of geography in 1974-75, followed by 268 in 1979-80, and 387 in 1983-84 (Bosque Maurel, 1992, 112-113)

⁸ The number of university students in Spain went from 129,000 in 1970-71, to more than 1 million in 1988-89 (López Ontiveros, 1992, 4).

⁹ The Humanities Degree is granted at 20 universities in Spain, of which only 6 also teach a Geography Degree.

nications, Translation and Interpretation, Dentistry, Advertising), as well as to a change in social preferences regarding these or other programs (technical programs, above all).

Table 1.		
Demand for Geography in Spanish universities.		
Academic year	New students enrolled	Total number of students enrolled
1993-1994	913	
1994-1995	1,363	3,198
1995-1996	1,643	3,500
1998-1999	2,140	7,781
1999-2000	1,716	7,995
2000-2001	1,221	7,670
2001-2002	900	6,656
2002-2003	849	5,790
2003-2004	782	5,043

Source: National Statistical Institute of Spain (INE), and departments of geography.

In the case of geography there are some additional specific factors. On the one hand, there was very reduced demand, during many years, for secondary and university-level teaching professionals. Teaching had been the principal job outlet for decades but it has since shrunk due to the saturation experienced after a rapid and intense growth in the number of teachers. On the other hand, there were hardly any alternative job fields available to geography degree holders at that time, given the lack of a stable professional sector or of any societal recognition for the discipline in Spain, unlike other European countries. This was aggravated, logically, by an inadequate university-level training that did not sufficiently respond to the demands placed on the profession by society in regard to territorial issues. Two other specific factors can be pointed out on top of the previous arguments: first, the consolidation of new degree programs that incorporate some traditional aspects of geography training, especially Environmental Sciences and Tourism; second, the lack of adequate teaching of geography at the secondary level.

This drop in demand for geography is even more marked if one observes not the total number of students enrolled but the number of newly enrolled students each year. The implementation of the Geography Degree came with an outstanding increase in demand that went from 913 new students in 1993-94 to a high of 2,140 in 1998-99. Since that date, however, the demand for geography has continued a rapid and general slide, reaching 782 students enrolled for 2003-04, which is only 37% of those who started in geography 5 years ago (see Table 1). The drop is found throughout all the universities of Spain.

However, the drop in demand has apparently reached the bottom. On the one hand, newly enrolled students coincide with a stricter definition of demand, which stems from students "pre-enrolled" in geography as a "first option". This is because the previous strong demand was partially "borrowed", since it came from students who enrolled into geography because they had not been able to enroll into their preferred program of stu-

dies¹⁰. The overall drop in demand at universities, and the increased supply of new degree programs, has adjusted supply and demand. In addition, in the last two years there are many universities where the number of students newly-enrolled into geography has remained stable or increased, which may indicate a change in trend. Some of these universities are the very same ones that have undertaken to make geography more widely known, as well as establishing virtual teaching and improving their relations with secondary-level educators.

d) Territorial distribution of demand.

This demand, smaller but not very different from other small degree programs, is shared today by 26 universities offering the Geography Degree in Spain; which means that most of the universities have a small number of students. The average number of students newly enrolled over the last three years (2001-02 to 2003-04) is 25 in 12 universities (almost half of the total offer), 25 to 50 in 9 universities, 50 to 75 in 4 universities (Universidad Complutense de Madrid, Universidad Autónoma de Barcelona, Universidad de Sevilla, and Universidad de Valencia), and more than 75 students in just one university (Universidad de Barcelona) (see Annex 1).

The lowest demand corresponds, of course, to those universities located in areas of Spain with smaller population and thus a smaller potential demand: in some cases there is only one university in the region: Extremadura, Oviedo, Murcia, Cantabria, and Castilla-La Mancha; in others, the university district is restricted essentially to a single province, since there is more than one university offering geography in the same region (Leon, Valladolid and Salamanca in Castilla-Leon; Granada and Malaga in Andalucía, where also Sevilla offers geography; Alicante in Comunidad Valenciana where Valencia has also a degree in geography; Lleida, Girona, and Tarragona in Cataluña. The exceptions are the cases of Canarias, Madrid and Barcelona where in each case two universities offer the degree of geography.

Nevertheless, the correlation between effective demand (the average number of newly-enrolled students in the last three academic years) and the gross potential demand (population as of January 1, 2003) is not clear and differences are not easy to explain because they respond to very diverse and complex factors. The universities in Baleares, Canarias, Cantabria, and Girona, show the highest demand index for geography. The insularity of Baleares and Canarias, is the main explanatory factor in these cases since it imposes strong difficulties for studying outside, thereby favoring the degree programs offered there. The lowest index is found in Galicia, País Vasco, Castilla-La Mancha, and Murcia (see map of demand for geography in Spain in this same volume, Reques, 2004).

This low number of students may endanger the survival of the Geography Degree

¹⁰ In June each year, students in Spain, after receiving a secondary-level degree (Bachillerato), and being approved for university studies, indicate in order of preference their choices of study: "pre-enrollment". Openings in each degree program are given according to applicants' qualifications. Students who, because of their marks, were not accepted into their first choice (because of excess demand for available slots), may apply to their other choices until they find a slot. This meant that geography, which had a supply higher than demand, ended up enrolling students that had not been accepted by their first choice because of poor marks. Thus, the enrollment in geography was circumstantially high during those years, but with students who frequently had little interest or preparation.

program in some of the universities where it is now taught. Concentrating the degree program in fewer universities in each territory is an alternative that would not ensure keeping demand at current levels. The reason for this is that the value Spanish society places on geography does not encourage students to overcome the additional costs that are implied by moving to a university outside their home environment. Also, factors linked to regional politics may contribute to maintaining the Geography Degree program in certain regions, despite a small number of students.

e) Conclusions

The current supply of university instruction in geography in Spain is more than adequate in view of a small and declining demand. Taught at 26 universities throughout the nation, the number of students of geography at many of them is small. While this may be a problem for the survival of geography in some universities in the short term, having reduced groups of students may also be an advantage in relation to the new teaching requirements posed by the European Higher Education Area.

The current territorial dispersion of supply and demand for geography may also be seen as a positive element since the two principal professional outlets for geography (secondary-school teaching and treatment of territorial problems, and territorial planning especially) have a regionalized demand. This is so because, on the one hand, both professional outlets (education and territorial management) belong to the set of powers already transferred to the regions in Spain and, on the other hand, territorial problems are ever-more frequently addressed at the regional and local scale.

In Spain, the lack of consideration for geography as a recently independent degree program (which traditionally had been oriented to training secondary-level teachers, sharing their courses and professors with History) has placed it in a position quite distinct from the European norm. However, in the last two decades, the drop in the demand for teaching positions, in conjunction with the 1993 appearance of the Geography Degree, has meant that Spanish geographers have had to contrast the value of their knowledge on the job market. Thus, Spanish geographers have pursued the same non-teaching professional fields than in the rest of Europe. However, this process is much too recent to have changed the traditional image of the profession, which is linked to secondary-school teaching, and to have brought about a demand that is similar in volume to the rest of Europe.

II. Geography Curricula in the Spanish University.

1. The general structure of the curriculum in Spain.

With the 1983 University Reform Act, Spain began a process of reforming universities that also included a notable change in Curricula. It was in this context that an independent geography degree program was established with a Curriculum different from the History program.

In Spain, current legislation establishes that Curricula are drafted and approved by each university. However, they have to observe the "Common General Guidelines" esta-

blished for all official university degrees, as well as the "Specific General Guidelines" for each study program. These must be then in accord with the National Council of Universities (*Consejo Nacional de Universidades*), which ensures compliances with the Guidelines. The Common General Guidelines were approved in 1987 and were modified later¹¹. Their principal indications are as follows:

- University degree programs are to last four to five years, and require at least 300 credits¹².

- A structure of two cycles of studies. The First Cycle gives the right, if so established by the Specific General Guidelines, to the granting of a specific professional degree¹³.

- The ordering of curriculum content into several kinds of subjects:

- "Core" subjects: obligatory and common to all Curricula in Spain leading to the same specific degree. These must represent at least 30% of the course load for the First Cycle and 25% for the Second Cycle.

- "Required university" subjects: determined at the discretion of each university like required courses in the curriculum of a specific degree.

- "Optional" Subjects: each university offers a list of courses in the curriculum of a specific degree from which students must choose a certain number¹⁴.

- "Elective" Subjects: "freely elected by students as part of their flexible curriculum"¹⁵ must represent at least 10% of the total course load of the Curriculum¹⁵.

The Specific General Guidelines for the Geography Degree program were approved in 1990¹⁶. They established the official name of the degree as "Licenciatura en Geografía" (Degree in Geography), a curriculum which "should grant adequate scientific preparation in the basic and applied aspects of Geography, territorial analysis and planning". The length of studies may be 4 or 5 years, with a minimum of 300 credits, a First Cycle of either 2 or 3 years – which grants no right to a "Diplomado"- and a Second Cycle of 2 years. It established 108 credits for "core" subjects, 60 in the First Cycle and 48 in the Second Cycle (which are detailed in Annex 2)

With the Common Guidelines and the Specific Guidelines for the degree program of geography, universities proceeded to draft and approve the first Curricula for geography as a complete and independent Degree, which entered into effect during the 1993-94 aca-

¹¹ Real Decreto 1497/1987, November 27, 1987 (Boletín Oficial del Estado No.298, December 14th). This was later modified by Reales Decretos 1267/1994, June 10, 1994; 2347/1996 of November 8, 1996; 614/1997 of April 25, 1997; and 779/1998 of April 30, 1998.

¹² A credit, as a unit for measuring university teaching in Spain, "shall correspond to ten hours of teaching on theory, practice, or their equivalents, among which may be included directed academic activities", which may be a maximum of 3 out of 10 hours.

¹³ Possible degrees are: Diplomado (Bachelor Degree holder), Arquitecto Técnico (Bachelor Degree in Architecture) and Ingeniero Técnico (Bachelor Degree in Engineering).

¹⁴ The first of these represent mandatory courses for students studying for the degree given at the university (so-called "required university subjects"). Among the "optional" subjects, students must choose a certain number of credits established by the Curriculum and that are offered each academic year by the university.

¹⁵ These may have non-specialized contents and are widely offered by all degree programs, or even quite diverse courses and seminars, as long as they are recognized by the university.

¹⁶ Real Decreto 1447/1990, October 26, 1990. (Boletín Oficial del Estado, November 20, 1990)

demic year. After the new Curricula were in effect for a few years, a period of reflection began amid Spanish universities on the problems observed in their application¹⁷, leading to the 1998 decision to revise the Curricula¹⁸. It meant above all a reduction in the excessive course loads and fragmentation and the majority of universities approved important modifications in the contents of Curricula. The Association of Spanish Geographers - "Asociación de Geógrafos Españoles" (AGE)- also contributed by pointing out a number of problems with the Curricula (Rodríguez Martínez, 2001, 96). It was on this basis that the various universities drafted and approved the current Curricula between 1998 and 2002, which we analyze below.

After their experience with the first Curricula, most universities (18 out of 26) have chosen a maximum length of 5 years for the Geography Degree. Almost all of the Curricula (18 out of 26) limit themselves to the minimum requirement of 300 credits. The remainder varies between 303 credits to a maximum of 336 credits. The average distribution among all of the Curricula according to subject type is 37.2% of credits in "core" courses, 31.6% in "required" courses, 20.7% in "optional", and 10.5% in "free elective" courses.

In Spain, as in France and Portugal, the teaching of geography is structured upon the areas of knowledge of the discipline, unlike other European countries with fewer, broader courses on processes and themes. The majority of the courses are a semester long, providing mostly 6 credits or, less frequently, 4.5 credits. However, after the last revision of Curricula, many "core" subjects – and in some cases "required" subjects – have an annual course structure of 12 or 9 credits.

2. An important common educational base for the teaching of geography in the Spanish University.

The "Specific General Guidelines" for the Geography Degree provided a broad field of action for each university to design their own Curricula. More than half of the degree's contents (54%) can be determined at the discretion of each university. (Given that 108 "core" credits are 36% and that student "free electives" are at least 10% of total). Also, the "core" subjects established had very broad "descriptors" (i.e. the determination of contents), which each university's Curriculum might unfold in one or several courses¹⁹. In practice, the disparity in the development of the "core" subjects was notable in the various Curricula (Alvargonzález, 2001, 97-98).

Despite the multiplicity of courses and the diversity of names and credits granted (Martín Vide, 2001) and the fact that each university had freedom to turn into specific courses the content of any "core" subjects (and of course to establish the content and

¹⁷ Report of the Council of Universities (Consejo Nacional de Universidades), December 18, 1996 Acuerdo, Boletín Oficial del Estado, no. 15, January 17, 1997, presented before the Conference of Rectors of Spanish Universities (CRUE).

¹⁸ Real Decreto 779/1998, of April 30, 1998 (Boletín Oficial del Estado, May 1, 1998) established modifications of the Common General Guidelines and called for revising the Curricula in accordance with them.

¹⁹ Therefore, for example, the 12 "core" credits in Human Geography in the First Cycle found in some Curricula are maintained as a sole course in General Human Geography. However, in many Curricula there is a course given in one of the branches of Human Geography (population, urban...) or in courses in diverse combinations of Curricula (rural and urban, population and rural...). The same has happened with the 12 "core" credits in Physical Geography.

extent of the "required" subjects), Curricula for geography in the 26 universities clearly share a common educational basis. This "minimal common denominator" among the Curricula is seen clearly when the "core" subjects and "required" subjects are jointly analyzed²⁰, that is to say all the subjects that each university has determined that every Geography Degree holder should know²¹.

When drafting their Curricula, universities considered "core" and "required" subjects as parts of a whole. They have used the "required" subjects – and the increase of core subjects – not to mark the specificity of their Curricula, but to basically complement teaching they considered necessary for students, that the emergence of "core" subjects had either obviated or had not dedicated an adequate number of credits. The result is a notable consensus on the basic contents for university training in Geography in Spain, as can be seen below.

2.1. A solid preparation in General Geography, as well as both Physical and Human.

The "core" subjects in General Geography are limited by the Specific General Guidelines to 12 credits in Physical Geography and another 12 credits in Human Geography during the First Cycle, in both cases with a very general description that includes all aspects of Physical Geography and Human Geography. But in order to enact their Curricula, practically all universities have decided that each student is to have knowledge far beyond General Geography, and have therefore expanded the number of "core" subjects or have established "required" courses in Physical Geography and Human Geography.

The average of "core" and "required" credits in General Geography at the 26 universities is 71.5 credits (33.3 credits in Physical Geography and 38.2 credits in Human Geography), three times the credits established in the Specific General Guidelines²². This means that General Geography represents 33.6% -a third – of the subjects that students are required to study, and 23.6% - almost a fourth – of the total credits in the Geography Degree program. These are distributed in almost equal parts between Physical Geography and Human Geography. Moreover, there is also a broad consensus over what each student should be required to know in both fields of the discipline.

²⁰ For students, of course, the distinction between "core" and "required" courses is irrelevant, since they are required to take them during their course of studies.

²¹ A total of 708 "core" and "required" courses have been analyzed among current Curricula, grouped together despite differences or ambiguities in the descriptions or names assigned to courses. Frequently, it has been necessary to either look at the actual course outlines and/or request clarification from the geography departments concerning the actual contents of some of the subjects not clearly identified by their titles or descriptions. The fields of knowledge distinguished have been made to coincide almost exactly with the "core" subjects established by the Specific General Guidelines for the Geography Master Degree: Physical Geography, Human Geography, Regional Geographical Analysis (grouping together the courses in Geography of Spain, Geography of Europe, and "required" courses on regional subject matters), Techniques in Geography, Applied Physical Geography, Applied Human Geography, Urban and Regional Planning, Theory and Methodology of Geography. Then they have added a group of "Other disciplines" of "required" non-geography subjects.

²² For Physical Geography the majority of the Curricula are around 24 credits (8 Curricula) or 36 credits (9 Curricula), while some exceed 40 credits. A majority of Curricula (16) dedicate between 35 to 40 credits. Only 6 are below 30 credits.

In Physical Geography, the great majority of the 26 Curricula require courses in geomorphology, climatology, and biogeography (under this or another title). Looking at the modal values (since the average of each subject is greater for some universities that have shaped these into "required" courses), it may be concluded that there is general agreement on providing about 12 credits to geomorphology, 6 to climatology, and 6 to biogeography. Hydrology, however, is one of the singular options given at some universities, although the basics are almost always given. There are hardly any other subjects in Physical Geography that are required.

There is also a consensus on value and weight given to the various knowledge areas of Human Geography. Resorting again to modal values, a general agreement emerges about dedicating 6 credits to population geography, 6 to rural geography, and between 6 and 9 to urban geography. There is also a broad, but not generalized, consensus over dedicating 6 credits to economic geography, although this subject is sometimes understood as industrial geography²³.

The other branches of Human Geography are only sporadically found as "required" courses in the 26 Curricula²⁴. This is due not only to the various options at the universities –sometimes stemming from the peculiarities of the region²⁵– but also to the fragmentation of teaching and research in Human Geography. More than half of the universities offering a geography degree (14) that do not include any "required" subject of other areas of Human Geography. It is to be noted that Spain, unlike other European countries, scarcely has a tradition in political geography or geography of transport²⁶.

This appreciation of knowledge in General Geography contrasts with the general absence of courses that present students a global and integrated perspective of society as well as the natural environment. In general, teaching on the various specialized areas of Human or Physical Geography is given independently from the beginning of the Geography Degree program²⁷.

It can be said that the current Curricula for geography attach great importance to teaching General Geography, which constitutes not less than a third of all the "required" subjects. Students of geography in Spain, without a doubt, receive a solid formation in the basics of General Geography, with a good balance between Physical and Human Geography.

²³ There is no economic geography in half of the 8 universities that offer industrial geography.

²⁴ Geography of services or geography of tertiary activities in 8 universities, industrial geography in 8, social geography in 6 (all cases except one share a course in another subject area: cultural geography, economic geography, and geography of tourism in 4 other universities).

²⁵ Therefore, geography of tourism is "required" only at the universities in the tourist-laden Alicante, Illes Balears, Las Palmas de Gran Canaria and Tarragona.

²⁶ Political geography is "required" at only 2 universities. Geography of transport as such is "required" at only one university, but as part of a course on industrial geography. In two other universities there is one course on "Geography of Communications" and another on "Geography of Trade and Communications".

²⁷ In theory, one would think that a global vision would be provided in the numerous Curricula in which, besides the courses specializing in each area, General Physical Geography and Human Geography are given. But the great majority of the programs for these subjects are broken down into lessons on the many areas of Physical or Human Geography – in some cases these are broken down further by professors specializing in aspects of each one of these.

2.2. Maintaining the traditional appreciation of Regional Geography.

One of the peculiar features of university geographical studies in Spain is the weight that Regional Geography continues to have²⁸. The Specific General Guidelines establish 24 "core" credits: 12 in Geography of Spain and 12 in the Geography of Europe. But all the Curricula approved by universities have increased to an average of 42.6 credits the number of subjects in this field that students are required to take.

There is a clear consensus regarding the subjects to be taught on Geography of Spain and Geography of Europe: between 12 to 18 credits in Geography of Spain, distributed almost always among 6 to 12 General Geography credits divided equally between Human and Physical Geography, and 6 in Regional Geography; 12 credits in Geography of Europe, also making differences between the General Geography of Europe, and the Regional Geography, although some Curricula devote almost the entire subject to the European Union.

There is also an agreement (in 23 out of 26 universities) about introducing among the "required" subjects a course on the geography of the region (*Comunidad Autónoma*) in which a particular university locates. The generalization of this subject, ranging from 6 to 12 credits, is closely related to the new territorial structure emanating from the 1978 Constitution, which has meant more independent policy-making on the part of Spain's various regions. But it also stems from Spain's tradition of analyzing the geography of surrounding territories (Ortega Valcárcel, 1988).

On the other hand, there is no general value placed on studying other parts of the world or requiring courses on this subject. Only 11 universities, or less than half, do so but with great differences in relation to contents and areas covered²⁹. The scant attention paid to Latin America is notable, despite the intense historic links and the possibilities afforded by our common language. This approach is quite different from France, for example, where there is a great tradition in Regional Geography, with a focus on the study of different parts of the world, especially former colonies and other territories that are now considered strategic.

Regional Geography teaching generally is quite classical in approach: it is, on the one hand, a General Geography of the territory that sometimes is broken up into different courses in Physical or Human Geography; while, on the other hand, it is a study, albeit less developed, of regional division. Although new and original focuses of study can be observed in some programs, the challenge remains today in how to address teaching on diverse territories and their regional differentiation.

Geographical analysis of diverse territories occupies, therefore, an important part (20.5%) of the "required" contents of the 26 Curricula as a whole, and of the total number of credits for the Geography Degree (14.0%). Teaching on the realities of territories at various scales assures the student of Geography in Spain a good knowledge of the territory, which is one of its hallmarks of identity.

In this field, unlike Physical Geography or Human Geography, there appears under

²⁸ This may be due to the influence exerted by the French tradition in the training of Spanish geographers in the post-war period (Bosque Maurel, 1992, 95).

²⁹ In 6 Curricula there were "Regional Geography of the World"; in 3 there was "Geography of America" or "Geography of Ibero-America"; in 2 there was "Geography of Africa"; in another 2 there were courses on Asia and Oceania; and 2 other Curricula covered other areas.

several names an introductory course on regional issues in at least 4 Curricula³⁰.

2.3. A sufficient presence of courses in geographical techniques.

Before the emergence of the Geography Degree program in the 1990s, the number of courses dedicated to the teaching of techniques necessary in Geography was low, being offered as optional semester courses³¹. Nevertheless, the teaching of the principal techniques, mostly cartography (topographic and geological mapping) and aerial photography, had always been present as applied methods classes in different courses. The establishment by the Specific General Guidelines of a Geography Degree with a "core" subject of 12 credits in "Techniques of Geography" was quite novel. But the university-approved Curricula have gone further on and considering necessary to substantially expand the subject matter: the average is 29 credits, almost 2.5 times the minimum set by the Specific Guidelines³². In all 26 Curricula, courses on "Techniques of Geography" represent 13.9% of the "core" and "required" credits, and 9.5% of the total course load.

The description of this subject in the Specific Guidelines was quite broad. Consequently, among the courses grouped under "Techniques" there is a great diversity of interests and names. Therefore, the existence of a clear consensus is perhaps significant: cartography, quantitative techniques, and geographical information systems are fields that are "required" subjects in most Curricula.

The highest number of credits (12) is in cartography -"General Cartography", "Thematic Cartography", and "Photo-interpretation"-. But what is relevant is the rapid and general incorporation, especially after the latest revision of Curricula, of courses dedicated to at least initial learning of geographical information systems; no less than 18 out of 26 universities have "required" courses in GIS in their Curricula. There are also a significant number of courses in remote sensing.

It is surprising, however, that only 3 Spanish universities have thought it necessary to include a qualitative techniques course among their geography "required" subjects. Something similar could be said about database information, analysis and treatment; although this subject does appear in some Techniques course of study.

2.4. "Core" and "required" courses in the Second Cycle: the growing importance of a broadly understood territorial planning

It is in the "core" subjects of the Second Cycle where the Specific General Guidelines for the Geography Degree tried to include new subject matters that would serve to open up the teaching of geography towards a professional, non-teaching approach (López Ontiveros, 1992, 14-15). This may explain why the "core" subjects in this

³⁰ "Introduction to Regional Geographical Analysis", "Spaces and Societies", "Regional Problems in Today's World" and "Regions and Regionalization".

³¹ In the 1980s, there were 15 universities out of a total of 26 in Spain that offered a course in cartography – in the majority (9) "Cartography and Photo-interpretation" was offered – but it was a "required" subject only in 3 universities. There was also a course in quantitative or statistical techniques in 9 universities, but it was "required" in just two of them (Association of Spanish Geographers, AGE, 1986, pp.22-26).

³² Only 4 Curricula have kept to the minimum 12 credits, while almost half of them require between 30 and 38 credits in techniques.

Second Cycle are especially numerous: 48 credits, or 40% of the total Second Cycle (much greater than the 25% set by the Common General Guidelines). In line with a more professional geography, 24 "core" credits in Applied Geography were set (12 in Applied Physical Geography and 12 in Applied Human Geography) and 12 in Territorial Planning. To these were added 12 credits in "Geographical Theory and Methodology", since epistemological reflection was thought necessary.

The Curricula, unlike the First Cycle, barely increased the number of "core" or "required" courses. This is because, on one hand, the number of "core" courses was already quite high and room had to be left for "optional" courses leading to students' specializations in the final stage of their studies. On the other hand, these were courses the possibilities of which had yet to be fathomed and on which there was little teaching experience in Spain³³.

There is not as much agreement on the course contents to be imparted in these subjects as it was for those in the First Cycle, especially regarding Applied Geography. In part, this is logical because Applied Geography had little tradition in the teaching of geography in Spain. Besides, it frequently underlies the contrast between the more traditional positions taken by geography in the universities and the new roads that are being opened up. Occasionally, there are also conceptual differences over the focus of a subject.

a) Urban and Regional Planning (Ordenación del Territorio): conceptual and instrumental bases.

In relation to Urban and Regional Planning, there is a quite generalized coincidence as to its extent (12 credits) as well as its contents. In the majority of the Curricula (23 out of 26), this subject focuses on concepts, instruments and policies of spatial planning, and appears to be understood as an integrated territorial planning at the supra-municipal scale – "regional and sub-regional" according to F. Zoido (Zoido, 1998). In most of the universities (17 of 26) it has been considered convenient to create a single 12 credit course. But it should be noted that teaching on the problems and practice of territorial planning is more and more present in current Curricula through core subjects of Applied Geography.

b) Diversity of contents and focuses in Applied Geography.

Credit assignment in "Applied Geography" does not seem to have a common orientation, while a notable diversity of contents and focuses is the dominant characteristic. In part, this is a logical reflection of a certain lack of conceptual definition in a subject that is basic, for the first time, in these Curricula, and for which there was little experience in teaching. The course descriptions and the programs consulted show that this "core" subject is translated into practical courses in each of the many areas of Physical Geography and Human Geography that were not included into the First Cycle, or into introductory courses in specialized techniques used for research in the various areas of

³³ In the previous Curricula, only 3 universities had an "optional" course in "Applied Geography and Planning" (Asociación de Geógrafos Españoles, AGE, 1986, 23).

General Geography³⁴.

But it can also be seen that many Curricula follow a very different road when developing Applied Geography as a "core" subject (or with the introduction of some new subject required by the university in the Second Cycle). Applied Physical Geography, is more and more focusing on territorial subjects and problems, i.e.: global analysis and interpretation of the physical environment, the study of natural risks and human impact on natural environment, and environmental issues such as forms of environmental impact and evaluation, setting boundaries for natural areas, and the planning and management of natural areas. In all there are 15 Curricula, or more than half, with at least one course in one of these three subject areas and 9 other Curricula with two courses.

Something similar happens in Applied Human Geography. In many universities, its division into rural and urban spheres does not imply a treatment by sectors or the learning of techniques, but a comprehensive territorial analysis and/or planning of areas considered as a whole, whether dominantly rural or urban. In relation to this, some of the "core" courses are even called planning and/or management of rural or urban spaces, rural planning, local development, territorial development, problems in territorial management. The same thing occurs with other courses that are oriented towards infrastructure planning or the planning of public services or tourism.

There is not, therefore, a clear consensus regarding the contents to be developed as "core" subjects of Applied Geography. But it seems that, albeit with difficulty, the road has been opened towards the importance of training students in more integrated subjects and of a wider projection for professional work, as an extension of basic training in territorial planning.

c) Special attention to the history of geographical thought.

The requirement by the Curricula for at least 12 credits in "Theory and Methods of Geography" was also a new development. It meant highlighting the importance of theoretical and methodological thinking in a discipline that has undergone considerable changes over the last few decades.

But the development of this "core" subject in the Curricula has focused almost exclusively on the history of geographical thought, which appears in course titles or program contents in 21 out of 26 universities. However, only 7 Curricula explicitly offer "required" courses in geographical methods. The firmly historical and humanistic training of most professors, and the trends dominating the period preceding the new Curricula, may explain the marked predominance of the history of geographical thought as a subject.

In some Curricula there is an introductory course on concepts and methods of geography, almost always during the first year of the Geography Degree program. This may be a good choice for better understanding the basic concepts of a discipline that will subsequently be presented in courses with diverse contents, which students may find quite disparate.

³⁴ Thus, in 10 Curricula the "core" credits in Applied Physical Geography are divided, totally or partially, between "applied geographies" of two or three branches of General Physical Geography ("Applied Geomorphology", "Applied Climatology", "Applied Biogeography"). In the same way, in 9 Curricula the "core" credits in Applied Human Geography are divided between "applied geographies" of two or three branches of General Human Geography (especially rural and urban geography, and to a lesser extent "Geo-demography"), but also Applied social, economic, and services geography.

2.5. *Self-sufficient Curricula.*

Geography Curricula in Spain are very "closed and self-sufficient" (Méndez, 1995-96, 140); they show an almost total lack of any required knowledge in non-geographical fields, which are apparently not thought necessary for the training of geographers. This is characteristic of almost all Spanish universities: a lack of cross-over studies unlike other European universities, specially German or English-speaking universities. This is significant for a discipline like geography, which is closely connected to humanistic and social disciplines and earth sciences. It is partly due to its recent emergence as an independent degree program, which led it to reinforce its identity by emphasizing its own teachings. But it is also due to a strategy that geography departments have taken to increase their teaching faculties.

Not even History appears frequently as a "required" course, despite the continued references among Spanish geographers to its importance towards understanding geographical reality. Only 9 Curricula provide for "required" subjects from other disciplines: 8 of them are courses in History, sometimes accompanied by other "Letras" (Arts) courses. It seems as if there is no need to study other instrumental or complementary subjects in the field of natural sciences, mathematics, law, or economics. Only one university proposed a "required" course in other fields of knowledge³⁵.

Also, in most cases – and all cases that require more than 12 credits in non-geographical subjects – these are universities recently created, with few students and/or professors. In general, it seems that these non-geographical subjects were made obligatory in order to establish Geography Degree program, because of the scarcity of geography professors and the relative youth of the Departments and the universities, rather than considering them as necessary. This explains why almost all of these are subjects found in sister Arts Degree programs ("History", "Philosophy", "Anthropology", and "Languages") that are also physically located in the same school, building, or campus.

3. *"Optional" subjects: between tradition and innovation.*

"Optional" subjects are those that may be elected by students from among the many that are offered by the Curricula at their universities. This is the offering presented by each university and, therefore, it is where the individual preferences, approaches, or capacities of the departments or professors are expressed.

Its very diversity makes a comparative analysis difficult. The Curricula usually present an extensive list of "optional" courses that maybe offered to students. However, not all of them are "activated", which is to say that they are not among the course offerings made for students to choose from during each academic year. Therefore, this analysis only took into consideration those courses which the universities have offered at some point during the years which of existence of the current Curricula address. With these, a data base was created from which the general characteristics reviewed below can be deduced³⁶.

³⁵ "Fundamental Economics for Geographers", in the University Autònoma de Barcelona.

³⁶ A good deal of the analysis about "optional" subjects was done initially by Pedro Reques, University of Cantabria, for the "Libro Blanco del título de Grado de Geografía y Ordenación del Territorio" (Tulla, 2004).

a) Limited options, but a great number of course offerings.

Students of geography in Spain need to take 63 "optional" credits (the average among the 26 Curricula), representing only 20% of total course load³⁷. This offering is far below the 54% permitted by the Specific General Guidelines, given that they require 36% "core" subjects and 10% "free elective". The cause is the great number of "required" subjects that the universities consider necessary. But in order to respond to the limited slots for options in the Curricula, over the last four academic years universities have offered a wide range of 859 different courses, or 33 "optional" courses offered per university. Taking into account that the average number of "optional" credits to be taken throughout a program is between 10 and 12 courses, students' freedom to choose is thereby great: they have 3 courses available for each "optional" subject. Besides, these "optional" subjects are distributed in the majority of universities among a small number of students.

b) Excess supply of courses expanding on traditional thematic subjects.

Those courses corresponding to the extension of various areas of General Geography (Physical and Human Geography) are at least one out of every three "optional" geographical courses. If we add Physical and Human Geography of Spain, they account for more than half (52%) of the total "optional" geographical courses. In some universities – the oldest and largest universities– this group of courses reaches levels equal to or over 60%. These subjects serve, on the one hand, to complement aspects that have not been dealt with in the "core" and "required" subjects in the First Cycle. On the other hand, these courses are based on the professor's specialized research and often become too personalized.

Their weight is excessive relative to the need to place degree-holders in professional work, beyond the minority that may choose university teaching or research. This predominance of specialized courses in the various branches of geography reflects a degree program dominated by professors, and which is far more oriented towards training teaching professionals and researchers than any other job profiles.

Along the same lines we should also include the reinforcement of theoretical-methodological or epistemological courses in some universities. This is a line of work that, although pursued by a minority, has given excellent fruits in Spanish geographical research.

c) A significant number of technical and methodological courses.

Among the Curricula, as a whole, there are no less than 113 courses offered along these lines, or 20% of "optional" subjects. In some cases they cover gaps (especially, geographical information systems and remote sensing) which were not considered "core" or "required" subjects. However, most of them represent more in depth treatments of these subjects.

³⁷ In the majority of the Curricula, the weight of the "optional" credits is about average (in 16 of the 26 Curricula, it is 15% to 25%), while the extreme cases are rare (1 with more than 30%, and 2 with less than 12%).

The fields of knowledge included are the same that appeared in "core" and "required" subjects: general and thematic cartography, photo-interpretation, geographical information systems, remote sensing, statistics and quantitative techniques, and information technology. It can be said that thanks to the "required" and "free elective" courses, Curricula provide students with a more-than sufficient toolkit of technical expertise.

d) A limited but significant supply of subjects to train non-teaching professionals.

This refers in part to "optional" courses that may be considered "integrated studies". Included in this group are integral studies on territory, environment, landscape, social and/or socio-territorial problems, natural resources, natural risks, and sustainable development. This type of course now makes up to 16% of "optional" geographical courses, albeit with considerable differences across between universities³⁸.

Even fewer are the courses that have as their goal the training of geographers for positions in management and decision-making. We have included those courses that refer more or less to urban development, territorial planning, local development, rural management, techniques for studying environmental impacts, and professional techniques specifically for geographers. It is to be noted that these courses have increased considerably since the last Curricula revision; however, the 26 universities only offer a total of 46 courses of this type, while 7 universities do not offer any at all.

e) Lack of support for geography Curricula in other disciplines, except in a few universities.

The closed and self-sufficient character of geography Curricula, already noted in "core" and "required" subjects, is even more notable and difficult to understand in the case of "optional" subjects. Although the average number of non-geographical options appears to be important (30.7% of the total options), this is a dubious figure since it is based on just a few universities, where it represents more than 70%. This is the case of newly-created universities where geography has been taught for fewer years and where, therefore, there are not enough faculty members to tackle the high number of "required" and "optional" courses in geography³⁹. But in half of the 26 Curricula non-geographical subjects do not account for even 10% of the "optional" courses offered, while 3 universities either do not have these courses or have not activated them.

It is History courses that make up for 12% of the total options and represent 40% of the total non-geographical optional courses. It may be concluded that this stems from its traditional linkage to geography in the *Facultades de Letras* (Humanities Schools) and, in the opinion of many geographers its value as a foundation in learning is one that should not be lost, having played a relevant role in interpreting territory and understanding the processes of change. Nevertheless, this explanation runs against the fact that "optional" courses in History are either totally absent, or very few, in the majority of the traditional universities, precisely those that for decades had had *Facultades de Letras* with a History section, and then later had three years in common with History in the

³⁸ From universities in which this type of option is either absent or has but one course, to those which have more than 4 courses.

³⁹ This is true for the universities of Castilla-La Mancha, Extremadura, Girona, Illes Balears, Lleida, and País Vasco (between 68% and 79%) and in a slightly lower proportion (47%) at Rovira Virgili-Tarragona.

Geography and History Degree program. It seems that there is a discrepancy between the declarations on the necessity of History to geographers, and geography Curricula⁴⁰.

Equally notable is the lack of openness towards Natural Sciences, to a great extent a consequence of the physical separation of schools and campuses⁴¹. But it is also notable the almost nil offering of "optional" courses in other disciplines (Madrid, 2002, 198-202), that are left to be chosen as students' "free electives". Among these courses are those concerning law, which is of great interest in the training of professionals to be involved with territory.

f) Conclusion.

The supply of "optional" subjects is quite large. It moves now between tradition and innovation: there is an excessive number of courses of general, geographic and thematic contents, which in their proper measure would be a treasure worth keeping. At the same time, there is a great number of new courses that are an alternative to traditional contents, which however pay scant attention to non-geographical disciplines.

4. Curricula with a strong practical component.

Geography has a long tradition in Spain as a discipline that uses observation and direct analysis of reality through fieldwork and a wide access to information sources. This characteristic explains the important weight that the teaching of practical applications has in current Curricula; even so, these do not completely reflect the real presence of praxis in the teaching imparted⁴².

The importance of practical teachings in current Curricula is shown by the following observations:

a) A high percentage of practical credits: Practical course credits count for 42.3% of the credits in Curricula in the 26 universities that grant the Geography Degree –much higher than the minimum requirement of 25% set by the Specific Guidelines for the degree-⁴³. Courses that are eminently practical are quite numerous, it being understood that credits in praxis have more weight than those in theory⁴⁴. Nevertheless, sectoral practices are carried out in each course of Geography, while an integrated practice on a specific problem or territory is not frequent.

b) In half of the Curricula there are individual courses in "Field Practices", "Fieldwork", or "*Practicum*"; and they are even required in 7 universities. The frequency

⁴⁰ Also, with the emergence of independent degrees in geography, history, and history of art, the "optional" subjects in history and history of art become necessary in order to offer students the possibility of applying for jobs in secondary education, where these disciplines remain united.

⁴¹ These subjects have only a slight presence at the universities at Zaragoza and Illes Balears where geography is found in the department of earth sciences.

⁴² A good part of the courses usually include field practices within their required teaching. Even though these practices may not appear in course titles, they do emerge in their respective courses.

⁴³ In the third part of the second Specific General Guideline for the Geography Degree, it is deduced that praxes (organized by subjects or as integrated praxes) should be a minimum of 25% or a maximum of 50% of the credits (Boletín Oficial del Estado, no.278, November 20, 1990, p. 24.387, Annex)

⁴⁴ This situation is found in no less than 99 "core" and "required" courses (14% of the total) and in 144 "optional" courses (16% of the total).

and relevance of "field trips" goes far beyond what appears to be expressly reflected in Curricula. In a good number of courses, geography professors are in the habit of undertaking "field trips", usually outside class time.

c) The Curricula at four universities require an "End-of-studies Paper", despite the lack of any tradition of this sort of work. In 5 other universities, with wide student acceptance, there is the provision of "External practice in businesses or organizations" (internships).

5. Geography Curricula and the challenge of the European Higher Education Area

The process of convergence for European universities, begun by the Bologna Process, will bring about important changes in Spanish universities and in their current Curricula. The stratification of universities into *Grado* (Bachelor) and *Postgrado* (Postgraduate, with Master and Doctorate degrees) levels will mean that any new Bachelor degrees (*Grado*) will be necessarily different from current Spanish Degrees (*Licenciatura*) in length and content. The new European Bachelor degrees (*Grado*) will have either 180 or 240 European Credit Transfer System (ECTS) credits in three or four year programs, instead of the current 300 credits and 5 years. Moreover, the criteria for European convergence direct Bachelor degrees (*Grado*) towards basic, general training and professional work. This will mean necessarily the reduction of the number of subjects included in current geography Curricula, but also the abandonment of very specialized subjects now included in the programs (which are better left to the postgraduate Master programs), as well as a greater focus on contents leading to job opportunities.

The *Agencia Nacional de Evaluación de la Calidad y Acreditación* –ANECA– (Spanish National Agency for Quality Evaluation and Accreditation) has drafted guidelines for the elaboration of "*Libros Blancos*" (White Papers) or reports that study the structure of possible graduate degrees in some disciplines, among them Geography. The report entitled "*Libro Blanco del Título de Grado de Geografía y Ordenación del Territorio*" was presented to ANECA in March 2004, after being approved by all geography departments and favorably reviewed by ANECA (Tulla, 2004).

The *Libro Blanco* analyzes the situation of university Geography teaching in Spain, job prospects for those receiving geography degrees, job profiles for degree holders, the specific and cross-over skills of Geography Degree holders have in comparison to the job profiles and objectives of graduate degree-holders. As a result of this diagnosis, a proposal emerged for a "General Structure for the Bachelor degree (*Grado*)", i.e. its duration and basic "required" and "optional" contents that may serve as basis for future Curricula.

A total of 240 credits (4 years) was chosen for the Bachelor degree (*Grado*) in geo-

⁴⁵ According to ANECA, the goals of these reports are: to achieve a proposal for a Graduate Degree that brings together a great number of contents common to all Spanish universities, in order to facilitate students' mobility and teaching staff; adapt the degree to the guidelines of the European Higher Education Area so as to permit academic exchange and promote a European space of job opportunities; design a degree program that responds to the growing demands of the job market.

⁴⁶ To draft the white paper on geography, a commission was proposed in June 2003 at a meeting of geography department chairmen of Spain, convened by the Association of Spanish Geographers (AGE) and the Colegio Profesional de Geógrafos of Spain. It was coordinated by A. Tulla and Gemma Cánoves of the University Autònoma de Barcelona, while the author of the present article, E. Burriel, chairman of the department of geography of the university of Valencia, was designated assistant coordinator.

graphy, which is greater than the 180 credits (three years) chosen by the majority of other countries⁴⁷. Nevertheless, this position on the duration of Bachelor degree program may be changed ultimately by the Spanish government. Many rectors have shown themselves in favor of a curriculum of only 180 credits (3 years).

The structure of the "Bachelor degree (*Grado*) in Geography and Planning" proposes a high proportion of "common required contents" – 150 ECTS credits⁴⁸, 62.5% of the course load – and 5% (12 ECTS credits) of "optional complementary contents", leaving it up to the universities to decide upon 78 ECTS credits (32.5%).

The "common required contents" were structured upon seven thematic blocks. Four of them emphasize, as has been traditionally the case in Spain, a basic training in General Geography and knowledge of territory: Physical Geography, Human Geography, Regional Geography, and Theory and Method, and follow the model of a generalist degree, leaving professional or academic specializations to the postgraduate Master programs.

The other three thematic blocks are more oriented towards eventual employment of degree-holders. On the one hand, there is an insistence on practical training by means of two modules. The first is "Techniques for the treatment and analysis of geographical information"; a more innovative one is the Practicum –which is understood as the joint integrated practical experiences in which a student may apply learned knowledge to bringing about an analysis, diagnostic and proposals for a territorial environment or problem. The third module is Territorial Planning, which is considered as one of the fundamental aspects of professionalism in the Geography Degree program.

Given the closed nature of current Curricula, the Libro Blanco proposes "optional complementary contents" dedicated to learning in other disciplines or cross-over techniques that would serve to complement students' formation and their training as professionals⁴⁹.

Independent of the value placed upon this work and its application in the future, the drafting of the Libro Blanco seems to have served to promote a review of the discipline in difficult and challenging times.

There is reason to believe that most universities now granting the Geography Degree will also be able to offer the forthcoming Bachelor degree (*Grado*), albeit one that is less extensive and specialized. But the most difficult challenges facing geography in Spanish universities may lie in offering Master Degrees and new teaching methods that presuppose the admittance of the ECTS concept. In both cases, geography in Spain may enjoy some advantages at the outset. On the one hand, as a small degree program, it can work from the outset with a smaller number of students with the current roster of teaching professionals. On the other hand, the existence of a good number of specialized subjects in the current Degree, post-graduate, and doctoral programs, provide a good base upon

⁴⁷ Although the review committee of the Libro Blanco on Geography had been inclined towards a length of 3 years, the majority of university professors, Master Degrees holders, and employers advocated 4 years in a far-reaching survey conducted with the Libro Blanco.

⁴⁸ The European Credit Transfer System (ECTS credits) was established in Spain by Real Decreto 1125/2003 on September 5, 2003 (Boletín Oficial del Estado, no. 224, September 18). This unit of academic measurement is now the amount of a student's work necessary for accomplishing the academic objectives of the subjects in the study program; it is not exclusively the course hours used heretofore in Spain.

⁴⁹ Subjects are not demanded, but some are pointed out insistently as possibilities in the surveys done among the geographical community. Curricula could not fail to offer a range of these subjects among which students choose, representing at least 5% of their course load.

which to build high-quality, attractive Master's degree programs, whether in inter-disciplinary or geographical studies.

ANNEX 1

Supply and Demand for Geography at Spanish universities

University	Supply Average courses in the 2002/03 and 2003/04 academic years.	Demand Newly-entering students (2001/02 – 2003/04 average)
Alicante	Open	20
Autónoma de Barcelona	100	63
Autónoma de Madrid	110	32
Barcelona	120	92
Cantabria	Open	27
Castilla-La Mancha	100	18
Complutense de Madrid	75	64
Extremadura	80	27
Girona	40	20
Granada	75	28
Illes Balears	Open	38
La Laguna	Open	49
León	Open	11
Lleida	30	9
Málaga	70	27
Murcia	100	14
Oviedo	Open	18
País Vasco	Open	22
Las Palmas de Gran Canaria	Open	45
Rovira i Virgili (Tarragona)	30	15
Salamanca	Open	14
Santiago de Compostela	Open	23
Sevilla	135	62
Valencia	113	63
Valladolid	Open	16
Zaragoza	Open	27
TOTAL	2,378 (estimate)	844

Source:

Supply: Agreements on the Consejo Nacional de Universidades (University Coordinating Council) (Boletín Oficial del Estado, June 14, 2002 and June 24, 2003) and departments of geography. Prepared by the author. (1) For the overall estimate, "No limit" is considered the equivalent of 100 slots.

For demand: Departments of geography. Prepared by the author.

ANNEX 2

**"Core" subjects leading to the Master Degree in Geography,
according to Real Decreto 1447/1990**

"CORE" SUBJECTS	Credits	AREAS of KNOWLEDGE
FIRST CYCLE	60	
Geography of Spain: general studies of elements of physical landscape, human population, and territory of Spain, with reference to the geographic bases of its regional structure.	12	Regional Geographical Analysis
Geography of Europe: study of general, physical, and human characteristics of Europe, of its regions and natural, rural, and urban landscapes.	12	Regional Geographical Analysis
Physical Geography: general and overall study of principles of Geography of Nature, of its internal relationships and significant elements, while introducing in an integrated fashion, the study of relief, climate, water, biosphere and landscape.	12	Physical Geography Geo-dynamics
Human Geography: general and overall study of principal elements of the Geography of Human Society, its internal relationships and significant elements.	12	Human Geography
Geographical Techniques: study and experience in the technical basis for Geography; introduction to field study, and the collection, analysis, and treatment of geographical data, as well as graphic and cartographic imaging.	12	Regional Geographical Analysis Physical Geography Human Geography Urban and Territorial Planning
SECOND CYCLE	48	
Applied Physical Geography: study of methods and techniques that organize and give practical meaning to the contents of the various branches of Physical Geography.	12	Physical Geography Geo-dynamics
Applied Human Geography: study of methods and techniques that organize and give practical meaning to the contents of the various branches of Human Geography.	12	Human Geography
Territorial Planning: introduction to the study of theory and practical analysis of the systems and instruments for intervening in territories at various scales.	12	Regional Geographical Analysis Physical Geography Human Geography Urban and Territorial Planning
Theory and Methodology of Geography: the basic framework of Geographical thought and its methodological systems. Their evolution, current status, principal findings and lines of knowledge.	12	Regional Geographical Analysis Physical Geography Human Geography
Credits in Theory and Praxis: taking into account Real Decreto 1497/1987, November 27, 1987, universities must allocate 25% to 50% of credits to practice, whether by specific subject areas or in integrated praxis.	12	All areas.

Source: Boletín Oficial del Estado, nº 278, November 20, 1990, p. 34.388, Annex.

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GEOGRAPHY TERTIARY EDUCATION IN NON-GEOGRAPHY DEGREE PROGRAMS IN SPAIN.

JOSÉ SANCHO COMÍNS

INTRODUCTION:

We approach the subject raised by the title of this brief study with a considerable amount of interest. Without attempting an exhaustive analysis, and while knowing that many factors are still to be considered, it is worth undertaking. It will allow us to survey broad and extensive vistas of complexity and even some contradiction; it is an exciting prospect.

It has been endlessly repeated that Geography is a cross-over science of interest to many people, which is able to give a broad and integrative education to university students. This remains true, topical though it may be. Experts in natural and human sciences, social sciences, and technical land management have approached it with very different objectives but with a common interest: to seek a better understanding of the relationship between human communities and the earth's surface. That Geography is numbered sometimes among the physical sciences, and sometimes with the human and social, should not be considered odd.

While Geography has been viewed traditionally as a cross-over discipline, it is even more so nowadays. Geography's multi-disciplinary character has become necessary in research; in teaching, many other disciplines have breached previously unassailable barriers and penetrated deeply. Society, on the whole, demands a less partial and sectionalized reading of land-use and physical/human events. With this new perception in effect in the fields already mentioned (research, teaching, society), Geography has clearly become linked to outside fields of discipline. While it continues to have its traditional interests, our science has opened itself gradually to unknown vistas, carried out innovative proposals for teaching, and has applied the latest inter-disciplinary methodologies and latest technologies to configure a new role for itself.

While the progress already mentioned is evident in data to be presented later in this study, a certain contradiction is evident nonetheless between that momentum and the crisis in which Geography finds itself in the granting of degrees. It is not for us to analyze the recent changes and current situation of our traditional granting of degrees. It is com-

monly known that, just as in the teaching of other social and humanistic fields where it has always had a place, Geography is having difficulties in attracting students at not a few universities.

It must be said that a shifting of geographers willy-nilly to other teaching disciplines cannot be good for the science of Geography, unless a strong geographic background and principles are maintained. This situation could prove to be dramatic in just a short time. The vitality of Geography in multi-disciplinary research groups, in the teaching of more than twenty different academic degree programs, in publications and professional work fulfilled in a great diversity of responsibilities, must be continually fortified by the degree-granting source. Now that it has accommodated to new demands, it is Geography that will supply the generations of well-trained geographers who can successfully meet the demand already mentioned.

The Real Sociedad Geográfica (Spanish Royal Geographic Society) and the Asociación de Geógrafos Españoles (Association of Spanish Geographers), being aware of these issues, asked us to undertake a study of the state of Geography found in curricula not leading to the undergraduate degree (*licenciatura*) in Geography. We did a small survey of all the universities of Spain, having received at this time a total response rate of 50%. The sample appears to be representative, even though we are not able to offer a complete and detailed profile. We can predict that the information not collected would undoubtedly increase the size of the tables, but would not add any new references of substance. It is in this spirit that we present our analysis, even though the door may be open for deeper studies in the future.

1. UNDERGRADUATE DEGREES IN HUMAN, SOCIAL, AND JURIDICAL SCIENCES.

In the fourteen M.D. programs noted, there are more than fifty different subjects offered. This number is important, not only because of the extent of the M.D. in which Geography is offered, but also because of the relationship of the courses offered.

Nevertheless, in addition to the observation made above, it should be pointed out that more than 60% of the courses are offered by the Humanities M.D. program and approximately a fourth in History, while in some they are shared. There is therefore a clear polarization in the offerings of these two M.D. that, between the two, constitute some 70% of the curricula. Following on at quite some distance are M.D. programs such as English (with four programs offered), Arabic and law (three programs), and the rest: Anthropology, Sociology, Politics, Art History, Economics, Business Administration, Hispanic philology, French philology, and Catalan philology, having a lesser number.

The second characteristic that can be pointed out is the tremendous scattering of the subject matters treated. The duality of specificity and polyvalence, which we had hoped to find, was not encountered. In effect, only Human Geography was noted for being present in four M.D. programs, following programs on Regional Geography and the specific Autonomous Regions of Spain. Apart from this case, Migration Geography and Tourism Planning (which are offered simultaneously in the five Philology programs) should also be considered. The conclusion is obvious, specialization is rewarded; the various M.D. programs have required, in light of their own interests, specialized courses.

M.D. in Human, Social and Juridical Sciences (Table 1)

Courses:	Licenciates													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Physical Geography	X	X												
Human Geography	X	X	X	X			X							
Geography of Spain	X	X												
Geography of Spain and its Regions							X							
Economic Geography	X	X												
Regional Geography	X	X				X								
Regional Geography of Spain		X												
Spaces and Societies	X													
Introduction to the Environment	X	X			X									
Land Management and Environmental Impact Evaluation	X	X			X									
Project Evaluation and Environmental Law Consultation					X									
Universal Geography	X	X												
Current World Environmental Problems		X												
Great Environmental Problems		X												
Rural Geography		X												
Population, Resources, and Urbanization		X												
Field Work in Geography and Land Management		X												
Geography of the Autonomous Region	X	X				X								
Economic Geography of the European Union	X													
Geography of the European Union														
General Geography	X													
Cartography and Photo-interpretation		X												
Regions and Societies in the European Union		X												
Urban Planning								X	X					
Geography of Tourism and Recreation		X												
Land Planning and Management			X											
Map Reading		X												
Rural Development		X												
Local Areas and Globalization		X												
Landscape Evaluation and Management		X												
Urban Geography		X												
Population Geography		X												
Health and Welfare Geography		X												
Migration Geography										X	X	X	X	X
Geography of Natural Landscapes		X												
Cartography and Data Management		X												
Rural and Urban Environment		X												
Natural Resources and Bio-systems		X												
Risks to Nature and Environmental Impacts		X												
Development Management		X												
Natural Resources and the Environment		X												
Geographic Organization of the European Space		X												
Applied Statistics in the Humanities		X												
Geography of the Arab World												X		
Geography of English-speaking Countries											X			
Regional Planning of Tourism										X	X	X	X	X
General Geography of Europe		X												
Applied General Urban Geography							X							
Latin America in the World System		X												
Human Geography in the European Union		X												

Continue

Courses:	Licenciates													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Humanities and Information	X													
Land Planning: Recent Evolution	X													
Regions, Tourism, and Natural Resources	X													
Area Tourism Resources: Evolution & Management	X													
Land-use Policies and Regional Development of Europe	X													
Geographic Land Analysis	X													
Population and Resources	X													
Social, Political, and Economic Geography	X													
Rural Systems	X													
Geography of Latin America	X									X				
1) History , 2) Humanities, 3) Anthropology, 4) Sociology, 5) Law, 6) Politics, 7) Art History, 8) Economics, 9) Business Administration, 10) Hispanic Philology, 11) English Philology, 12) Arabic Philology, 13) French Philology, 14) Catalan Philology.														

In the third place, the M.D. programs offer, as can be expected, a great diversity of subject matters. There are some that belong to what we might call the traditional platform: Physical Geography, Human Geography, Geography of Spain, Regional Geography, Rural Geography, Urban Geography, etc. Those with a basis in Area studies stand out: Geography of the European Union, Geography of the Arab World, Geography of the Autonomous Community, Geography of English-speaking Countries, etc. Those which deal with the environment and development are quite numerous: Significant Environmental Problems, Landscape Evaluation and Management, Natural Resources and the Environment, Development Management, etc. Finally, there are courses in instrumental subjects such as: Cartography and Photo-interpretation, Land Administration, Applied Statistics in Humanities, Map reading, etc. This quick overview reveals a certain balance struck between tradition and innovation. It seems logical that it should be this way, for Geography is an ancient tree. Its enduring branches of knowledge are cherished even while new sprouts are welcomed.

We are moved to come therefore to a few initial conclusions:

1) Geography is still a valuable cross-over discipline in some M.D. programs. This is true, for example, in courses of a traditional nature: Physical Geography, Human Geography, and Regional Geography.

2) There has been an explosive growth of new subjects. It is worthy of note especially in everything related to the environment and new technologies. Simultaneously, there has also been a still-maturing expansion in the number of subject matters that has not yet matured. We still need to distinguish the "wheat" from the "chaff".

3) There are a number of M.D. programs bearing similar names, Natural Resources and Bio-ecosystems versus Natural Resources and Environment, which have a common background. These unresolved, vogueish, denominations are to be expected during a start-up phase.

4) Course offerings are clearly polarized by two M.D. programs: History, and

Humanities. This demonstrates the scant penetration that Geography has had until today in other licentiate programs.

While it is good that there are 14 M.D. programs offering courses in Geography, but an increase of geographic courses in these is desirable.

5) It should not come as a surprise that the sorts of professors present in these universities will affect the nature and the names of course offerings. This is logical, but a certain balance should be maintained between the capabilities of the teaching staff and the actual needs of education in the various M.D. programs.

2. CERTIFICATES IN HUMAN AND SOCIAL SCIENCES.

In the surveys undertaken, we have found five Certificate (mid-level university degree) programs that offer some teaching of Geography. Certificates in Tourism, and Teaching, are the most important in this segment, joined by Business Administration, Library Science, and Social Work, albeit to a much lesser extent. While Geography has been traditionally present in Teaching certificate programs, it is now significant in Tourism as well.

In effect, the very denominations themselves demonstrate this polarity. In Teaching, without making distinctions between the specializations, there persist the classic denominations such as Physical Geography, Human Geography, Geography of Spain, Regional Geography, etc. In the Tourism certificate program, as can be expected, there has been a great proliferation of subjects with novel denominations. In the three other certificate programs, only four geography courses are taught: "Cartography and Geographic Documentation" in Library Science, "Social and Population Geography", in Social Work, "Tourism Development" and "Sustainable Tourism" in Business Administration.

That these courses have such a small cross disciplinary nature is notable, since in only seven instances is the same course offered simultaneously in two certificate programs. In the case of Teaching, the courses seem to have a dual orientation; on the one hand, there are those that deal with the basic or fundamental level. On the other, there are courses that deal with the methodology for teaching the physical and human features of the geographical areas covered.

The panoply of subjects offered by the certificate program in Tourism can be grouped into three large blocks. On the one hand there are those that pursue general topics in thematic order (e.g. Area Tourism Resources), or in territorial order (e.g. Typology of Tourist Spaces or Geography of Mediterranean Tourism). On the other hand, there is a good number of subjects dealing with tourism management and planning. Finally, there are also technical courses, e.g. GIS applied to Tourism, and Tourism Cartography.

Certificate Programs in Human and Social Sciences. (Table 2)

Courses:	Certificates				
	1	2	3	4	5
Physical Geography	X				
Human Geography	X				
Geography of Spain	X				
Economic Geography	X				
Regional Geography of Spain	X				
General Geography	X				
Compared Analysis of Tourism Areas		X			
Area Tourism Resources		X			
Geographic Interpretation		X			
Design and Management of Tourism Resources		X			
Geography in Practice		X			
GIS applied to Tourism		X			
Geographic Heritage and Environmental Impact of Tourism		X			
Development of Tourism and Sustainable Tourism		X	X		
Geography of the Autonomous Community	X	X			
Methodology of Site Analysis	X				
Geography of European Tourism Areas		X			
Regional Planning of Tourism		X			
Global Space: Geographic Landscapes	X				
Alternate Tourism	X	X			
Social Sciences and the Teaching of Social Sciences	X				
Natural Sciences and the Teaching of Natural Sciences	X				
Specific Tourism Activities		X			
Geography of Tourism and Recreation		X			
Area Planning of Tourism		X			
Geography of Tourism in the Autonomous Community		X			
Geography of Mediterranean Tourism		X			
Tourism and Environment		X			
Techniques for Evaluating Tourism Potencial		X			
Geography of the European Union	X	X			
Field Work in Social Sciences	X				
Typology of Tourism Areas		X			
Models of Tourism and Consumer Typology		X			
Discovering the Geographic Space	X				
Political and Social Geography	X				
Geography of Rural and Urban Landscapes	X				
Social and Population Geography					X
Cartography				X	
Geographic Documentation				X	
Geography of English-speaking countries	X				
Geography of Environment	X				
Environmental, Social, and Cultural Knowledge	X				
Rural Geography	X	X			
Geography and Environmental Education	X	X			
Descriptive Geography	X				
Tourism Cartography		X			
1) Teaching, 2) Tourism, 3) Business Administration, 4) Library Science and Documentation, 5) Social Work					

A quick overview should allow us to raise a series of issues:

1) For the Teaching Certificate, Geography tends towards two quite enduring objectives: general studies provided by the traditional basic subjects (e.g. Physical Geography, Human Geography, Regional Geography, Geography of Spain, etc.), and teaching methodology. As is well known, maintaining this dual presence in the curriculum has not been easy because of those who, while staking positions on psycho-pedagogical grounds, persistently try to limit Geography to teaching methods only.

2) Innovation in subject material has been notable in the new Tourism certificate program. Geography can provide, fortunately, a wealth of experience in teaching and research in the field of tourism. This has been the right moment to satisfy an urgent demand that would not have been possible without that previous preparation. The use of the word "geography" is widespread in naming these subject areas, something that does not occur in other recently created certificate programs, as we shall see later.

3) Our findings about the penetration of Geography in the certificate programs is contradictory. On one hand, our presence in the Tourism certificate program is quite positive, although it can be said that there are considerable differences between some universities. The twenty-five subject areas are distributed, logically, in a disparate manner that surely comes about according to the capacities of each university's academic members. On the other hand, the offering is clearly polarized between two certificate programs, having been opened to only three others: e.g. Business Administration, Library Science, and Social Work.

4) We also insist on our perception of a certain amount of improvisation in the formulation of the Tourism Certificate program. This improvisation need not be negative, since time, without a doubt, will meld the contents of the curricula and lead to a greater homogeneity in the subjects taught.

3. UNDERGRADUATE DEGREES IN TECHNICAL, ENVIRONMENTAL, AND BIOLOGICAL SPECIALIZATIONS.

Geography has recently had an excellent opportunity to expand into a number of different new and advanced degree programs in technological fields and life sciences. Worthy of mention are the M.D. programs in Environmental Sciences, and Geodetic and Cartographic Engineering. This expansion has been joyfully received in not a few university departments, but has a dual meaning; on one hand, it reveals that Geography is indeed a cross-over discipline. On the other hand, it has a negative effect that, while we have successfully penetrated the fore-mentioned disciplines, has resulted in fewer entrants to Geography degree programs.

In effect, according to our data, among the 62 degree programs offered, 41 belong to the M.D. in Environmental Sciences; more than two thirds remain, therefore, polarized in this program. There are no cases of dual degrees and show, to the contrary, a great specificity in subject areas.

From the thematic point of view, the M.D. in Environmental Sciences seems to demand that geographers provide three types of teaching. First, the corpus of basic or fundamental courses is notable; these are courses that provide students with a systematic and conceptual basis on diverse territorial and social issues, e.g. Environment and Society, Population and Resources, Climatology, Settlement and Land, Landscape, etc.

Second, technical courses are prominent: e.g. Geographic Information Systems (GIS), Environmental Remote Sensing, GIS Applications and Remote Sensing. Finally, they constitute an ample list of subject areas related to Land management. Some of these refer to course offerings of a general nature such as: Basic Principles of Land Planning, Area Basis for Environmental Analysis, Project Organization and Management, etc. Others have the look of an applied-science, e.g. Analysis and Management of Landscapes and Rural Systems, Analysis and Management of Urban Areas, Environmental Impact Evaluation, etc.

It should be said that the presence of Geography courses, specifically, is minimal whether from the point of view of general (e.g. Physical or Human Geography) or area studies (Geography of Regional Spaces). It seems as though there had been just a simple change in terminology to accommodate the new situation. We do not want to say, however, that this is meaningless, since it comes as an accommodation to very real and formative requirements.

The new Geodesic and Cartographic Engineering, found in a dozen Spanish universities, presents another opportunity for our science. This is not the place to defend the essential relationship between the sciences of geography and cartography. We may be disappointed by how the presence of our science has been consolidated in the engineering program, which in many places has taken the route of Advanced Topology. Despite this, the responsibility of offering six courses in a two-year second cycle is appreciable. Geographers provide their perspective on Land Management and Applied Geography, Regional Geography, and especially technical applications of Remote Sensing, GIS and Thematic Cartography. Finally, Ocean Sciences, Biological Sciences, Architecture, and Geological Engineering have asked for our contributions. All of these are basically applied sciences that are sometimes technical (e.g. Remote Sensing, Spatial Analysis Techniques, etc) in nature, while others are managerial (e.g. Land Planning, Geographic Management of Coastal Tourist Areas, etc.).

Undergraduate Degrees in Technical, Biological, and Environmental Specializations. (Table 3)

Courses	Degrees					
	1	2	3	4	5	6
Human Activity in Natural Environments	X					
Human and Demographic Geography	X					
Environment and Society	X					
Geographic Information Systems	X					
Advanced GIS and Remote Sensing Techniques	X					
Physical Geographic Environment	X					
Land Planning and Environment	X					
Project Organization and Management	X					
Introduction to Environmental Studies	X					
Population and Land	X					
Settlement and Land	X					
Tourism and Environment	X					
City and Environment	X					
Landscape	X					
Shoreline areas	X					

Continue

Courses	1	2	3	4	5	6
Agrarian Geography	X					
Environmental Impact Evaluation	X					
Landscape Management and Evaluation	X					
Landscape Analysis and Evaluation	X					
Systematic Physical Geography	X					
Land analysis techniques	X					
Area basis for Environmental Analysis	X					
Pedology	X					
Rural Systems Management and Analysis	X					
Hydrology	X					
Physical Environment of the Autonomous Community	X					
Human Environment of the Autonomous Community	X					
Natural Risks	X					
GIS Applications	X					
Analysis and Planning of Urban Spaces	X					
Industry and the Land	X					
Land, Recreation and Tourism	X					
Environment, World population, and urbanization	X					
Environmental Protection Problems in Spain	X					
Geographic Management of Shoreline Tourism areas		X				
Human Geography of the Sea		X				
Navigation and Orientation		X				
Planning and Management of shorelines and ocean environment		X				
Population, Ecology and Environment			X			
Photo-interpretation and Remote sensing			X			
Land Planning			X			
Cooperation with Development			X			
Applied Geography				X		
Regional Geography				X		
Urban Ecology					X	
Landscape Architecture					X	
Spatial Analysis Techniques					X	
Infrastructure and Climate risks						X
Remote sensing				X		
GIS Applications in Environmental Issues				X		
Applicaitons of Remote sensing to the Environment				X		
Thematic Mapping				X		
Environmental Cartography			X			
Population and Resources	X					
Environmental Remote sensing	X					
Integrated Reconnaissance of the Natural Environment	X					
Basic Principles of Land Management	X					
Analysis and Management of Urban Areas	X					
Analysis and Management of Rural Systems and Landscapes	X					
Human Risk Factors	X					
Climatology	X					
1) Environmental Sciences, 2) Ocean Sciences, 3) Biological Sciences, 4) Geodesic and Cartographic Engineering, 5) Architecture, 6) Geological Engineering.						

As in the preceding paragraphs, we can illustrate our views as follows:

1) In the degrees we have reviewed, innovation in subject matter is now commonplace. Sometimes, the least, innovative of these are camouflaged under the guise of traditional course denominations. In others, it is shown in the very names of the course subjects. In any event, Spanish geographers have made great efforts to be included in the teaching of these courses. Sharing a common heritage of studying the earth's surface, landscape, and society, they have provided their knowledge in the service of forming students of science and technology.

2) The degree of participation on the part of geographers is considerable. Because of geography's close links to environmental sciences and cartography, this has permitted geographers to provide course offerings in the tradition of our discipline. The right path has been taken, as multi-disciplinary research groups will not only capitalize on accomplishments made thus far but also strike out towards new horizons in teaching.

3) As mentioned before, academic staff preferences can be discerned in the various study plans of these certificate programs that make the curricula longer, but which may not be a big issue. As always, a golden mean has not yet been reached in which it is possible to work with an increase of efficiency and harmony.

4. CERTIFICATES IN SPECIALIZED TECHNICAL AND LIFE SCIENCES.

We have detected a total of ten subjects taught by geographers in the following specialized undergraduate certificate programs: Topography, Techno-Agricultural Engineering, Nursing, and Technical Architecture. The area of Specialized Certificates has been the least open to Geography.

Not one of these course selections bears an ambiguous name. Each certificate program appears to fulfill a very specific need, while Topographic Engineering Technology and Agriculture together account for 80% of geography courses offered. These deal for the most part in the fundamentals of social issues ("Person, Culture, and Society" for the Nursing Certificate), area studies ("Geography of the European Community", for Topography), or human geography ("Urban Geography" in Architectural Technology). Geography is barely represented in technical areas ("Cartography and Photo-interpretation" in Agriculture), nor is it of note in managerial applications ("Cadastre, Urbanization and Land Management" in Topographic Engineering).

In view of its lack of importance in either the number of courses or certificate programs offered (at least in the surveys received thus far), no conclusions can yet be drawn. We point out that the list of some of these may lengthen, although we do not believe that it will change significantly.

Certificates in Technical and Life Sciences specializations. (Table 4)

Courses:	Certificates			
	1	2	3	4
Person, Culture, and Society			X	
Geographic Eco-systems	X			
Cadastral, Urbanization, and Land Management	X			
Toponymy	X			
Geography of the Autonomous Community	X			
Cartography and Photo-interpretation		X		
Bio-Geography and Plant Cartography		X		
Mountain Regions		X		
Rural Geography		X		
Urban Geography				X
1) Topographic Engineering Technology, 2) Agricultural Engineering Technology, 3) Nursing, 4) Architectural Technology				

CONCLUSIONS:

The moment in which this study was done is characterized by a dual set of circumstances. On one hand, the relationship of the various degree programs appears to be solidified since the latest reforms of advanced university studies. On the other, change can be seen on the horizon as a consequence of the Sorbonne (1998) and the Bologna (1999) Declarations. We geographers have endured the era of the LRU (Law of University Reform) for more than a decade, which meant a deep re-examination of curricula, as well as the birth of new degree programs. Recently, there have been some minor adjustments to address some of the deficiencies found. However, the greatest challenge is yet to come. The European Higher Education Area presents us with two highly-relevant goals: the creation of compatible degree programs, and profound improvement of the system of education.

This is the moment, therefore, to re-consider accomplishments made thus far and design a framework that will again change the basic structures of higher education. With respect to the first point, the results have been somewhat positive for us. The way has been opened towards the participation of more than twenty degree programs. There are now ample course offerings in core subjects, area studies, technical issues and area management. However, the insertion of Geography into some areas of teaching has been insufficient, while we note above all a lack of maturity in some of the course offerings. Their stature can only be sorted out over time. As far as harmonization with the rest of Europe is concerned, we should take heed of the forthcoming fusion of Certificates and M.D. into the academic Degrees of the European Higher Education Area, making equilibrium possible between cross-over disciplines, generalist studies, and specific knowledge areas that (even without recognition of specializations) will permit future graduates to work in their profession.

The melding of Environmental Sciences with Humanities, the forthcoming M.D. in Tourism, coupled with the fusion of current programs like Topographic Engineering Technology with Geodetic and Cartographic Engineering, could become the main sup-

port for our future participation among the new academic Degree programs of the European Higher Education Area.

Spanish geographers have lived through times of re-definition. They have learned to adapt over the last ten years to requirements not known before; it is not a simple task to channel traditional geography's knowledge base into new study plans. But a transition by the Geography M.D. program in response to the new requirements from the outside cannot happen with anything less than this channeling. The rate of acceptance of the transition is quite high: integration into multi-disciplinary teaching programs has taken place without notable frictions, but rather with understanding and aplomb.

Finally, it would be useless to ask whether the bringing about of the current course offerings is an initiative of Geography professors, or if it comes from the degree programs themselves. They are compatible, and we would not wish to arbitrate between the two. It seems sensible that mid-level and advanced degrees programs in area studies, culture, and the future of human communities should retain Geography in their course plans and that the teachers of Geography should have a legitimate desire to participate in the formation of future professionals of these fields.

GEOGRAPHY IN SPANISH PRIMARY AND SECONDARY SCHOOLS (1990-2003).

XOSÉ MANUEL SOUTO GONZÁLEZ

INTRODUCCTION:

Contemporary societies are characterized by the special attention they pay to the education of their citizens. The institutionalization of liberal states during the nineteenth century was accompanied by free and obligatory schooling at some age levels. Although the incorporation of Geography into the Spanish obligatory school system was late in coming, as compared to other countries and curricula, there is no doubt that it contributed to the goal of the ruling class: the creation of a consciousness of place and identity along with the national state. What was once a course of studies of utility to the social elites no longer has this function in mass education, where all students aspire to express their pluralistic identities in a democratic and cross-cultural society.

At this cross-road of identities, coinciding with the appearance of new problems and the deepening of inequalities, it has become necessary to renew the definition of Geography in the schools. An attempt will be made to achieve knowledge that will be useful to citizens who access the school systems in order to acquire the skills necessary for integration into citizenship with its rights and responsibilities that are regulated by a state abiding under the rule of law. Education will cover, therefore, not only concepts but also the skills necessary for interpreting events that are broadcast ad infinitum by an information society that stimulates children and adolescents to the point of saturation. In this sense, it would be valuable to determine whether the right conditions exist for defining Geography for the schools; a definition that is able to answer the great social questions that are manifested on the earth's surface.

As a consequence, in this chapter we want to refer to the conditioning factors and potentialities of Geography in Spanish schools, as well as research on theory and innovation in classroom techniques. Here will be shown the numerous contributions that have been developed in recent years, which we have delimited to the years between 1990 and 2003. The Education Law (LOGSE) of 1990 transformed the organization of schools in Spain, practically coinciding with the release of a report on the teaching of Geography in Spain (Crespo Redondo, and Fernández de Diego, 1992). In 2002 was proclaimed anot-

her Education Law (LOCE), which prepared for the transformation of the organization of schooling in Spain. These were years of change in legislation, and for Spanish society as a whole, when Spanish geographic research was inadequately responsive; this can be perceived in the bibliographic materials in use at the time (A. Luis, and A. Guijarro, 1992).

1. SOCIAL AND POLITICAL TRANSFORMATION.

In order to adequately explain the transformation of the teaching of Geography in Spain, we must refer to the great changes that have taken place during the second half of the 20th century. We can define three important periods: the first was characterized by social mobility that continued until 1975, when rural populations left behind agricultural regions for the industrial and commercial sectors surrounding the urban areas; the second, 1975-1990, saw the settling out in the cities of these layers of population which coincided with improvements in education and social welfare along with an increasingly aged population; the last period has been characterized by the arrival of immigrants who have brought about increased birthrates and population concentrations to the periphery of cities.

This process is linked to the increase in temporary work and instability in wage-earnings, as well as greater dependence by young people on family, increased consumption of perishable goods, and a growing lack of confidence in school system as a means of social mobility. The increase in debt per family and lessened autonomy for young people has resulted in lessened communication among families and educators. If we add to this the growing influence of the media, especially in the stereotypes projected and adolescents' perception of the world, then the problems that arise in classrooms are perfectly understandable.

We must also understand that the teaching of Geography belongs at the heart of a structure of schooling, having inputs from various different educators: parents, teachers, students, and non-teaching staff, some of whom must answer to various different levels of administration and authority. In Spain, the authoritarian policies of the Franco regime gave way during the beginning of the 1980s to a policy of administrative de-centralization, the formation of Autonomous Communities, and the tenuous participation by society in the School Councils in the urban areas and other political entities.

The way was opened towards substantial modifications to the school system, and the hope of responding to social and personal demands for education that would permit the social advancement of the most competent intellects. In the case of Geography in the schools, a better way of establishing these alliances was through the study of local environment as defined by the local territorial borders (Pérez Alberti, and Souto González 1990). Nevertheless, results showed that the teaching of Geography was still dominated by verbal exposition of facts, despite efforts to focus on the nearest physical space, the advantages of farm work, and maps (which were seldom seen in geography classrooms).

This routine showed how weak was the ability of the democratic school system and, especially, the teaching of Geography to articulate a credible response during the last years of the 20th century. If to these we add the politics of job instability, the socialization of children left alone at home, the de-valuing of political action, and the absence of consistent criteria in family education, it is easy to speak of a crisis in schooling and in

the teaching of Geography.

The word crisis takes us to two basic concepts: uncertainty as to circumstances, and the capacity for making decisions in view of an uncertain future. The contributions on the part of geography in the schools have also performed in this way, whether they come from university studies of teaching methods or the history of teaching, or whether they come from innovations in the technology and methodology of teaching Geography in non-university school settings. Therefore, the obstacles that arise in the way of knowing about geographical space must be identified, as J. Estébanez noted in 1996 with respect to teaching this subject. Some barriers stand in the way of an analysis of current society's needs and the assistance that geographic knowledge can provide.

2. PROPOSALS FOR THE OFFICIAL CULTURE.

During the second half of the 1980s, there was an important debate over whether or not students in the state school system aged 6 to 16 years should receive coursework in Geography. Therefore, several proposals were offered that followed the model of rationalization offered by Chevallard (1997), which meant associating the Geography courses to teaching in the schools by incorporating the results of university-level research. This proposal, offered by H. Capel, A. Luis, and L. Urteaga (1984), has been the most heeded.

This debate influenced the programming of course-work and teaching activities that were formulated by education administrations, e.g. the Autonomous Communities' authority over education. Working groups and training seminars for educators were put into action. The debate then focused on the inter-relationships of various areas of knowledge: Understanding Environment in Primary Education and Social Sciences, Geography and History in Compulsory Secondary Schools. The arguments had a bearing on the limitations and possibilities of these disciplines for undertaking a critical reading of the world today. In some cases the development of work projects integrating various sciences was tried, while in others there was a renewal of school curricula around which revolved the contributions of other subject areas.

In order to understand the linkages that may be established between Geography and the organization of the school culture, an explanation of the structure of the Spanish school system is necessary. Since 1990, the school system has been organized into three pre-university levels: Infancy (0 to 6 years of age); Primary (6 to 11); and Secondary, subdivided into compulsory (12 to 16) and non-compulsory which encompass baccalaureate studies at both the mid-level and advanced levels of education levels. The courses are organized by areas of education with their corresponding objectives, evaluation criteria, and blocks of curricula that include concepts, procedures, and attitudes. This technical and administrative organization of academic knowledge conditions the response from Geography, since it depends upon research done in connection with demands made by education as well as upon the ability to interpret the objectives of the school system.

Therefore, an explanation of Geography's contributions by means of a quantitative analysis of the number of goals and courses in the various areas of knowledge and levels of education is not possible. It would be necessary to consider the possibilities that came about in 1990, look at geographers' answers, and know how text-books, school programs, and class room practices were put into place.

In the area of Knowledge of Society and Natural Environment (Primary education), there are some blocks of knowledge that allow the development of geographic skills, which we believe will have aided the students of this age group to better understand the planet and its political, cultural, and economic sub-divisions. In Table 1 are the principal course contents that promote the geographic study of social and spatial realities. As it indicated in five of the ten blocks, a proposal for geographic education can be developed.

Table 1: **Blocks of course contents for Knowledge of Environment (1991)**

Block of Syllabus	Course descriptions
Landscape	Elements of landscape, important local and world landscapes. Field work and cartography. Respect for conserving landscape.
Physical environment	Elements of the physical environment, e.g. air, rocks, soil, human activity. Use of visual aids. Valuing water as a scarce resource.
Social Organization	Political borders of Spain. The European Union. Planning and conducting interviews. Rejection of discrimination on the basis of sex, ethnicity, etc.
Population and Human Activities	The local population, work and productive sectors, recreational activities. Analysis of surveys and communications media. Valuing work and recreation as creative activities.
Media and Transportation	Networks and means of transportation. Planning itineraries. Use of and consultation with travel guides. Studying the impact of technological developments on communications media.

Source: author's analysis of Royal Decree 1006/1991.

Nevertheless, the development of this curriculum in textbooks and the Autonomous Communities highlighted the absence of clear theoretical and methodological criteria for creating inter-disciplinary programming, stemming from a definition of environment as the whole of eco-systemic relations between human activities and the various physical and biological elements that make up a landscape (Pérez, Ramírez, and Souto, 1997). Only in the case of Andalusia, especially as propelled by Project IRES ¹, do we have proof of programs that address school problems by way of focuses of interest, or inter-disciplinary subjects. Also, the role of geographic knowledge was analyzed and found to be principally a means of understanding place as well as a description of landscape.

So it seems that research and innovation in Geography is absent from Primary Education. The routines imposed, and training provided to faculty, were kept to a minimum. In the case of initial training, the contributions made by the teaching of geography are hidden and dispersed amid the teaching of social sciences; the permanent courses, seminars, working groups, and training provided at learning centers do not specifically address this way of thinking through environmental problems. As was recognized by three school teachers, geographical knowledge should be systematized during teacher training (Álvarez Orellana, M.F. et al. 2001); this is a difficult task, since the contents of the courses are more difficult than those touching upon relations within a classroom. Just

¹ Refer to the monograph in issue 51 of the journal *Investigación en la Escuela*, published in Seville by Diada, that brings together the contributions of P. Cañal and G. Travé.

as we have tried to show in previous paragraphs, pre-university Geography implies taking decisions that range from the ways classroom learning is organized, to the choice of curricula when interpreting the objectives set by the law.

The passage of a new Education Law (LOCE) at the end of 2002 brought about changes in nomenclature. This area is now referred to as "Sciences, Geography and History", while the integrative concept of environmental knowledge has been replaced by a juxtaposition of contents: Sciences (i.e. Physics, Chemistry, Biology, and Geology), Geography and History. The contents were likewise modified by Royal Decree no. 830 of June 27, 2003. In this case, courses are organized by subject, and distributed over three academic years without any reference to procedures or attitudes. An example of this is summarized in Table 2 below:

Table 2. Distribution of Course contents in Primary Education, 2003.

Primary school levels	Subjects related to Geography
First academic level (6-7years old)	The cycle of water. The Earth's surface. Soil. Weather. Public services. Recreation.
Second academic level (8-9 years old)	The Universe. The Solar System. Representations of the Earth: maps and images. Climate.
Third academic level (10-11 years old)	Spain and its diversity of landscapes. Population of Spain. Sources of energy. Sustainable development

Source: Author's analysis of the Boletín Oficial de Educación, July 2, 2003.

The changes that took place in the 1990s in Compulsory Secondary education have been more relevant, even though the incidence as measured quantitatively is low. It is significant that the majority of the articles stemming from teachers' workshops on Geography refer to this period. This is for two reasons: the first is that teachers' Training Schools are more interested in producing professors of Social Sciences than in forming teachers, while the second is the greater number of working groups focusing on innovations in Secondary-level teaching.

During these years, some working groups made their own interpretations of the objectives set by law by taking advantage of the flexibility reigning at the time. Nevertheless, the majority of the editors and professors continued to be mired in academicism and methodological conservatism. Studies done on the textbooks used during the beginning of the change in curriculum show a use of obsolete concepts for explaining rural environment (Puente, 2002), as well as the absence of teaching criteria for sequencing course contents in compulsory Secondary education ². It seemed appropriate to investigate these obstacles that stood in the way of improving the quality of education in the classroom.

Despite political concerns over the course contents of Geography taught in compulsory education, favorable attention was directed to the issue of area studies. According to the Spanish ruling party, after 1996 the presentation of information referring to the areas of the Autonomous Communities endangered learning of Spain as a whole and ran the risk

² To be mentioned here is the work by M. Balanzá and E. Climent that was presented at the 5th Congress on the Teaching of Geography, held in Alicante, 1998, as well as the several publications of the MANES project which in its review of 19th and 20th century school manuals also includes references to geography books.

of fomenting exclusive local identities. In mimicking the Spanish Academy of History, the Association of Spanish Geographers (AGE) published a report on textbooks which hardly registered in public opinion or among the professor-members of the AGE.³

The bungled debate over the teaching of humanities, given that it did not question the model for teaching in a mass culture (Souto, 2001), nor the perceived loss of authority on the part of school systems and professors, created fertile ground for the modification of the structure of course contents: first, provisionally in December 2000 with the passage of the LOCE, and then definitively in July 2003.

The LOCE's programs mean a return to the encyclopedic, professional, and academic idiom of the 1950s and 1960s. A comparison of the programs of 1991 and 2000 shows the return to knowledge of geographic reality that is thematic, conceptual, and categorized. In Table 3, we have summarized a comparison of the geographic course contents that appeared under both royal decrees. In one case, they are contents to be organized by the faculty throughout the stage of Compulsory Secondary education period, while the other is a sequence of courses in that stage.

Also, it will be observed that express references to procedures and attitudes have disappeared.

Table 3. Comparison of Geography course contents in 1991 and 2000 (Ministry of Education decrees) in Compulsory Secondary Education.

Course contents in 1991 (academic stage)	Contents in 2000 (academic years)
Introduction to geographic methods.	Planet Earth: its movements and mapping (1 st).
The Environment and its organization.	Elements of the Environment: relief, climate, vegetation, water (1 st).
Population and resources.	Natural environments and resources (1 st).
Economic activity and the geographic area.	Natural risks (1 st).
Urban area	World population (2 nd)
Region and political power	Economic activities (2 nd and 3 rd).
Procedures: geographic study techniques (six)	City (3 rd).
Attitudes (three)	The Spanish geographic region. (3 rd) The world's surface and its problems (3 rd)

Source: Author's study of Royal Decrees 1007, June 14, 1991, and 3473, December 29, 2000.

The case of the Autonomous Communities of Valencia, and Galicia, allow us to demonstrate the wealth of options that appeared in 1992 and the homogeneity shown in 2003. In effect, if we analyze the distribution of course contents of 1993 and 2002, in Galicia we see that contents have been transformed, according to the logic of the Ministry of Education, into a list of academic subjects quite different from the curriculum that existed in the 1990s. In Table 4, we see that if the course contents as of 1993 followed a plan ranging from perception and imaging of a region, to its political and economic organization and citizen participation, then in the 2002 decree we find a list of subjects subdivided into three academic years bearing an evident resemblance to the Ministry's proposal.

³ We refer to the December 2000 report by Jacobo García and Daniel Marías that was received by the AGE Board of Directors in March 2001. The repercussions of this report have been minimal; only María Luisa de Lázaro and Xosé M. Souto sent critical remarks about this document, as can be appreciated on the AGE website.

Table 4: Comparison of decrees on teaching standards in Compulsory Secondary Education in Galicia (1993 and 2003).

Galicia: Decree of 1993.	Galicia: Decree of 2002.
4.1. Perception and imaging of a region. 4.2. The eco-geographic region. 4.3. Population and inequalities in the settlement in the region. 4.4. Resources and their exploitation. 4.5. The region and political power. 4.6. Social arrangement of the region. 4.7. Imbalances and conflicts in the world today. 4.8. Economic organization and the world of work. 4.9. Political power and citizen participation.	First year: 1. The Earth and natural environments. 1.1. The planet Earth. 1.2. The elements of the natural environment. 1.3. Natural environments and resources. Geographic distribution. 1.4. Natural and human risks. Second year: 1.1. World population. 1.2. Economic activity in societies. 1.3. Organization of societies 1.4. Political organization of societies. Third year: 1. Geographical regions. 1.1. Society's effects upon natural environments. Geographical regions and economic activities. 1.2. The city as a geographical region. 1.3. Galician and Spanish geographical regions. 1.4. The world's surface and its problems.

Source: Study by C. Mesejo of Decree 78 of February 25, 1993 and Decree 233 of June 6, 2002.

When we make a similar comparison in the case of the Autonomous Community of Valencia, we can also verify that the organizing of great blocks of course contents has been transformed into a list of academic subjects that are very similar to those of Galicia and the Ministry (see Table 5). Suppressed then, in this case, was a curriculum that insisted above all on a methodology for building a base of knowledge in Geography for the sake of unifying the conceptual course contents on the scale of the state. An attempt was made to homogenize the contents simply and superficially: the selection of a few academic subjects, and the predominance of a geographic focus on the area and region, in such a way that the additional "communities" refer to specific places (La Albufera, Tabarca Island) or to specific aspects of the Autonomous Communities, i.e. the Galician people or the Statute of Galicia. Even scarcer are references to any specific aspect of the building up of knowledge for analyzing a non-unique, individual place.

Table 5. Comparison of decrees on teaching standards for Compulsory Secondary Education in the Community of Valencia, 1992 and 2002.

1992 Decree	2002 Decree
Block 1: Introduction to geographic and historical methods; data collection, scale, cartographic imaging.	Introduction: Grouping inter-disciplinary knowledge-sets that appeared in the five blocks of 1992.
Block 2: Values and attitudes towards life in society; Natural and cultural heritage, social prejudices, operating in society.	First year: The Earth and natural resources; 1. The planet Earth. 2. Elements of natural environment. 3. Natural environments and resources. 4. Natural risks.
Block 3. Societies and Regions. 1. Landscapes, and interactions between human beings and natural environment. 2. Distribution of socio-economic inequalities on Earth. 3. The works of the geographic region. 4. Regional organization of the world.	Second year: Human Societies. 1. World population. 2. Economic activity of societies. 3. Organization of societies. 4. Political action in societies.
Block 4. Today's societies; Socio-economic inequalities, Great problems of the world today.	Third year: Geographic areas. 1. Actions between nature and societies. 2. The city as a geographic region. 3. The Spanish geographic region. 4. The world and its problems.

Source: Author's study of Decree 47 of March 30, 1992, and Decree 30 of March 5, 2002.

As a consequence, we are found with a program of courses that refer to a culture of an encyclopedic nature that is obsolete when we consider the expectations and needs of adolescent young people of the 21st century. Besides a list of subject that *implies a methodology*, a grouping of information of such extent requires traditional oral instruction. Even though Antoni Ballester (1999) had warned at the end of the 20th century that the majority of textbooks, as well as classroom work and materials do not advance any significant learning, we fear that we are now faced with the negation of learning.

Finally, in reference to the *bachillerato* – the secondary-school degree in preparation for university education- it can be shown that there is a return to the regional paradigm that is a response to the premises of an obsolete culture. The comparison of the curriculum of 1991 and the subject matters of 2000 show two significant aspects. In the first place, the sequence of contents for each academic year reveals a complete lack of confidence in the teachers that has been manifested at other points in history ⁴. In the second place, the very detailed and specific nature of the conceptual course contents, despite a greater laxity towards procedures and attitudes, reveals an orientation towards the culture of schooling. A greater homogenization is sought by way of certain concepts that everyone must learn. Table 6 compares these two decrees, which is relevant not only for what it expresses but also for its implications for school teaching, as much through school manuals as by forecasting the secondary-school final exams as proclaimed by Article 30 of the LOCE. This is a law, mandated in July 2003 to approve subject matters, which reveals the stark ideological nature of the rapid modification of course contents of 2000. These were published in January 2001 by the *Boletín Oficial de Educación*, and a year later by the Autonomous Communities themselves.

Table 6: **The development of course contents in the Bachillerato program.**

1992 program	2001 program
An approach to geographic knowledge.	Spain in the world system.
Spain: regional unity and diversity.	Spain in Europe.
Eco-geographic dynamics.	Nature and environment in Spain.
Unequal utilization of resources.	Geographic region and economic activities.
Population, urban system, and regional planning.	Human resources and regional organization
Spain in the world.	

Source: Author's study of Royal Decrees concerning the Bachillerato program.

Besides the foregoing, the most important issue in teaching Geography in the Bachillerato program is the influence of that University Admission Exams have upon the development of coursework during the second year of secondary education. As has been shown by E. Climent (2001) and Claudino and Souto (2001), the drawing up of these exams clearly shows the predominance of a school system mired in rote-learning and an antiquated culture that provides little understanding of the world's greatest problems. As

⁴ We refer to the Ministry of Education decrees of August 1971 and March 1992. The former abandoned the possibility of the inter-disciplinary programming that had been proposed in December 1970, while the latter imposed a specific organization of course contents as opposed to the apparent reform manifested in the decrees of June 1991.

a result, the teaching of Geography should be reformed by addressing the proposals made by universities to mid-level education. This is a way towards transforming pre-university level teaching that has been used with success in other countries.

3. RESPONSES OF RESEARCHERS AND INNOVATORS.

The 1980s was the dream decade for education that influenced that framework and consolidation of groups of innovators in teaching social sciences and geography. In one case, this was done under the aegis of reform initiatives proposed by secondary-school administrations, as was true for Andalusia, Valencia, and Catalonia. In another, this came about especially in places where teachers are trained.

Finally, other groups responded to the call of the Ministry of Education to come up with curricular projects; it was therefore that groups such as "Aula Sete" of Galicia, "Ínsula Barataria" of Aragón, and "Asklepios" of Cantabria were formed.

Within these groups there soon arose a debate about the organizing of courses and methodological sequencing of curricular activities. There was a debate over whether to organize secondary school curriculum according to one or more different subjects, or from Geography's perspective of place or History's perspective of time, or from the inter-disciplinary or multi-disciplinary stand-point of social sciences. The very name given to this area by school administrators indicated that there were doubts about this organization, just as the debates over whether the conservatism or liberalism of disciplinary regimens implied uniformity in teachers' thinking about learning ⁵.

To my way of thinking, there is considerable confusion between the arguments emerging from the sociology of the science, and the willingness to change the culture of schooling stemming from ideas about an alternate culture of schooling. Studies of the history of function of the institution of schools, and the organization of course contents, indicate (so say the innovators) the need for a break with a stagnant and incomplete organization of learning. The choice of contents with very broad thematic boundaries was defended along the lines of proposals that were linked to the pedagogy of the early 1900s, as were the cases of the Decroly interest centers or Kirkpatrick work projects.

In other cases, more emphasis was placed on the possibilities of renewing school offerings on the basis of traditional disciplines. Here we can highlight the contributions by Projects *Gaia-Clio* and **Kairós** that were founded in experiments on secondary-school reform in Valencia.

Social problems, in the first case, were sought to be defined from a perspective of the complexity of a place, that being a synthesis of subjective observations and statistical, cartographic, and verbal analysis of geographic media since "in learning, a person relates sensory experiences with the rational", (Souto, et al., 1997-99). Based upon these assumptions, a range of teaching units was created, among which teachers' guide-books were distinguished from scientific updates, as well as from classroom research ⁶. It is in

⁵ Social Sciences: Geography and History; Social Sciences, Geography and History, Geography and History and other social sciences, have been among the denominations used by school administrators throughout this debate before the LOGSE was promulgated.

⁶ In the *Gaia-Clio* project can be seen the ideas that we have addressed in the journal *Biblio 3W*, part of a series of *Geocrítica*, no. 161, <http://ub.es/geocrit/menu.htm>, as well as in the journal *Didáctica de las ciencias experimentales y sociales*, no. 13, 1999, pp. 55-80. More information about *Gaia-Clio* be found there.

this way that a conjoining of classroom innovation and theory might be undertaken, which, as in the case of Enric Ramiro (1998), has also resulted in undergraduate papers and doctoral dissertations. Based on these theoretical premises, and the support of a group of teachers who have experienced these teaching units in various levels of Compulsory Secondary and Bachillerato education, have published more than a dozen teaching units that propose a sequence of courses that might include Geography.

In the second case, the Kairós group defines Geography as that subject in schools that "explains and links global processes that are manifested locally" so that a great deal of the world's contemporary problems can be understood as "a geographic whole, a part of a larger whole" (Maestro, et al., pp. 31-33, 1999). This statement is made explicit in units from Compulsory Secondary Education (ESO); it is the first unit of the ESO that presents interaction between environment and society in the transformations of geographic space, the risks that certain natural phenomena pose to human life, or the unequal distribution of resources. The second unit goes further into unequal resource distribution by linking it to population growth and unequal access to resources. Finally, the third unit of ESO (14-15 years of age) proposes studying geographic space by segments (agriculture, tourism, industry, and urban areas), regional imbalances in Spain and the world. As in the foregoing case, that a good number of teachers are trained in the creation and utilization of these units makes this project quite important.

We can also single out the *IREs* group of Seville for linking research in education to innovations in teaching Geography. The development of and experimentation with a teaching unit on urban life and the quality of life in Seville's districts led to a doctoral dissertation (F. García, 2003), as well as articles that show students' advances in the conceptualization of the urban environment (F. García et al., 1993).

Finally, in this brief analysis of innovations produced by working groups on teaching methods at the University of Cantabria, we must point out: *Asklepios*, where Alberto Luis has researched social science teaching methods (Guijarro, 1997); the problem of underdevelopment (Ruiz Varona, 1997); the relationship between new technologies and appropriate housing, from a historical point of view (Romero, 1998); and on the incidence of supply and demand of tourism in regional planning (Mañero, 1999).

I believe that a few provisional conclusions may be offered concerning the possibilities for research and innovation in teaching geography. I understand that it is necessary to explain that the working groups on innovation in teaching are oriented towards three different objectives and strategies. In the first case, there are groups that attempt to justify their *publishing mission*, as is true for *Edetania* – which explains the difficulties they have had in meeting their goals within the framework of the law (García Almiñana, 2001) as the author had indicated in previous attempts at reform ⁷. Secondly, there have been *innovation projects* that have attempted to link classroom practices of some teachers to research on challenges to learning, thereby leading to seminars, workshops, and meetings on the teaching of Geography and History ⁸. Finally, in other cases an interest

⁷ As in the 1994 Jornadas de Intercambio (Workshops on exchange) for working groups of the Community of Valencia, of Galicia in 1997, or in the 1st and 3rd AGE Workshops on Teaching Geography. In the bibliography can be found further information about its debate.

⁸ We can single out the workshops held in Valencia (Souto and Cerdà, 1998; Souto, 2002; Durbán, 2003), as well as the ten meetings for teachers held by *Fedecaria*, a federation of innovators that publishes the *Conciencia Social* yearbook printed by the Diada press. Seven issues have been published about innovative teaching of social sciences.

in *innovation in concrete matters* predominates, as exemplified by *IRES* and *Asklepios*. In these there is an interest in linking university research with secondary school teachers' methods while undertaking programs focusing on social functions and knowledge in schools.

Doubtlessly, this research attempts to respond to the question, "What can we provide towards the teaching of Geography within the framework of general education?" This is a key question, as José Villanueva (2003) proposed in his dissertation on the tradition of encyclopedism versus the timid innovations of the 1990s that tried to develop a critical attitude towards toward geographic space as the context for social relationships, productive activities, and recreation, as well home and personal life. It is a space that is subjected to numerous influences, especially the media, which shape it materially and culturally. Geography should be open to the future, just as long as we are able to transform it into "a course of studies that is active, modern, and open to the desires and problems of our students" (Piñeiro, 2002).

On the other hand, we must also mention the articles published by journals dealing specifically with the teaching of Geography and History, e.g. *Iber*, and teaching as a whole, e.g. *Aula de Innovación educativa*⁹. These journals present reflections on the theory and reviews of classroom practices. The proportion of articles on Geography is not very high among the articles on social sciences. As can be seen in Table 7, it takes second place with respect to History in the teacher training and the formation of curricula.

Table 7. Monographs in the journal Iber on teaching Geography and other Social Sciences.

Generals subjects	History	Geography	Art	Social Sciences	Philosophy	Economy
7	14	5	5	5	1	1

Source: Author's own analysis of 38 issues published.

In the 5 issues published about Geography we see that they reference specific matters such as the study of cities and urban environments, as well as specific techniques (i.e. cartography) together with essays on new university research, the role of methodology and techniques in producing a Geography curriculum, as well as an appreciation of Latin American teaching of Geography.

This interest in pre-university Geography should be tied to a renewal of the discipline that is consonant with the concerns of society and the research done in other countries.

Ricardo Méndez (2003) has made us see the differences found between the articles published in Spain and in the most prestigious international journals. So too in the annual colloquia held by *GeoCrítica* magazine that present us with a panorama of research into the fundamental problems facing mankind: migration, access to housing, the search for work, and the impact of new technologies¹⁰. Nor can we forget the constant interest on

⁹ This is the case with the July-August 1998 collection of monographs that brings together diverse articles about teaching Geography in various levels of non-university education.

¹⁰ The reports of the foresaid colloquia, which number about 100, can be found in *Scripta Nova* at www.ub/geocrit/menu.htm for the issues released on August 1 for each year 1999 to 2003.

the part of the working group on teaching *Grupo de Didáctica of the Association of Spanish Geographers* (AGE) to study the development of the teaching of the subject in non-university venues (De Lázaro, 2001; Moreno Jiménez and Marrón Gaité, 1995).

4. PERSPECTIVES ON THE FUTURE.

At the end of the 20th century and the beginning of the 21st we find uncertainty with regard to the future of teaching Geography in the schools. On one hand, there is important research, and innovation, that promote changes in teaching and learning this discipline; they are not very numerous as far as the number of learning centers are concerned, but they are represented in the configuration of new ways of working a classroom. On the other hand, we are witnessing a return to the classic culture of Geography, parceled out into the planet's regions, which poses an obstacle to the study of world problems.

At this time, I understand that the lines of work can be summed up into three different directions. In the first place, we must mention the efforts to define Geography in the schools as a concert of knowledge that are useful for socializing students since it allows them to interpret their personal and collective identities. It is then that we must point out the studies done by groups of innovators who insist on methodology that is tied to solving school problems that are related to great social and environmental dilemmas. This is a line of action that is found in the projects on curricula already mentioned. Working groups try to act as platforms for critical thinking, reflecting on students' ideas and producing materials that feed into this sort of applied research.

In second place, there is research into *work techniques*, especially with regard to the study of landscape from a visual perspective or the standpoint of environmental education ¹¹, from new computer resources ¹² and cartographic imaging technology (Comes, 1993, and Trepát-Comes, 1998), as well as simulations and spatial thinking on the part of children between the ages of 4 and 8 (María R. Piñeiro, 1996). The study of the notes from the six AGE workshops on teaching Geography makes clear that different localities and teaching levels are being addressed in this field, which without a doubt will improve the abilities of current and future teachers. This is, in our view, a necessary but insufficient strategy since these teaching methods should be incorporated into an orderly program of learning activities for which a definitive teaching methodology should be found.

It is therefore that we must now go in the third place to research focusing on the study of *students' ideas*, which represent popular opinion about aspects of Geography and become, at the same time, obstacles towards learning in the schools. Work by researchers such as Ignacio Nadal (1999, 2002), F. García (1999), and A. Cervellera (1997), we believe, are examples of the kind of useful reflections on classroom practices at the various levels of compulsory education. In the same way, the analysis of curricular mate-

¹¹ In the first case, issue no. 9 of *Iber* does an important synthesis of Jaume Busquets' visual study of landscape, while in the second case R. Pena (1996) makes an important contribution.

¹² Several reports, and a paper, were presented on this issue at the 6th Congress on Teaching Geography, Toledo, November 2003.

rials and alternative methodologies (Ballester, 1998; Souto, 1998) allow us to move towards the search for a primary and secondary-level Geography that can respond to the interests and expectations of students at the beginning of the third millennium.

This wealth of contributions has created dynamism among many teachers, which has been followed closely by the AGE, through its working group on teaching, which has called together six congresses ¹³. over the last fifteen years. ¹⁴ In Table 8, we show the concerns that have been shaped in the papers and issues while we also highlight participants' interests in different issues. As can be seen, the variety of matters analyzed is quite large, in such a way that the great majority of reports deal basically with sections that are a hodge-podge of innovative and active teaching methods.

Table 8: Activities of the AGE Working Group on Teaching

Workshops	Central issue	Papers	Number of reports
1. Madrid, 1998.	Demands by Geography before the LOGSE reform.	Reforms of study plans. Active teaching. Geography and Social Sciences	45 (22 in the section on Active teaching).
2. Burgos, 1991.	Geography and reform.	Geography in curricular design. Geography and environmental education.	19 (13 in the section on environmental education).
3 Madrid, 1996.	Geography and the challenge to education within the Reform.	Procedures. Landscape as reference. Cross-over issues and Geography.	46 (19 in the landscape section).
4. Alicante, 1998.	Education and Geography.	Earth's surface as a goal of teaching. Values in urban environment. Teaching resources and rural environment.	43 (21 in the section on innovation in teaching).
5. Murcia, 2000.	Geography, the teaching profession, and society.	Training of teachers. Innovations in teaching. Scientific content.	43 (21 in the section on innovation in teaching).
6. Toledo, 2003.	New demands by society.	Immigration and cross-culturalism. New technologies. Proposals by LOCE.	43 (16 in the section on innovation in teaching).

Source: Author's study of the proceedings of the Workshops.

In view of the results of the fore-mentioned studies and reports, deep reflection is needed on the challenges facing geographical education at the dawn of the third millennium. To be considered then, are well-defined school problems as experienced by teachers and students in the classroom, while fleeing the bureaucratic red-tape that imposes an encyclopedic agenda as required by the LOCE. To be investigated then, are the hopes of children and adolescents saturated with superficial information by an information society, and who scarcely have any interpretative tools. Therefore, as at other times in history, Geography can provide profound reflection on the inter-relationship of a locality with the human problems of the wider world. This kind of reflection will allow us to question the apparent order that exists at this moment of globalization.

¹³ Together with the association of geographers of Portugal.

¹⁴ Here should be mentioned the constant effort by María Jesús Marrón Gaité, as president of the AGE Working Group on Teaching, to foster this dynamism.

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GEOGRAPHY POSTGRADUATE COURSES IN SPANISH UNIVERSITIES (1983-2004)

MANUEL VALENZUELA RUBIO

1. INTRODUCTION

Until the promulgation of the law for the reform of the university (*Ley de Reforma Universitaria, L.R.U.*) of 1983, the first democratic stage initiated by the Constitution of 1987, the only aim of the Third Cycle was to prepare university graduates to write a doctoral thesis. After obtaining the doctoral degree there were two professional careers: university teaching or research at the Spanish Council for Scientific Research (*Consejo Superior de Investigaciones Científicas, C.S.I.C.*). The L.R.U. reproduced the constitutional precept by which all Spanish universities should be autonomous and, for this reason, since then, they have had a significant degree of freedom to organise third cycle studies and were only required to fulfil the general criteria included in the Royal Decree 185/1985 of 23 January. In it, the third cycle was given a double perspective, the doctoral and the professional one, which has been maintained by the Royal Decree 778/1998 of 30th April (B.O.E. 104 of 1st May), to regulate doctoral studies, obtaining and issuing of the doctor degree, as well as of other postgraduate studies. Therefore, from 1985 to 2004, third cycle studies in Spanish universities have been aiming two directions:

a.- A doctoral perspective with the aim of obtaining a doctoral degree after proving capacity for research by participating in courses of high scientific level (20 credits) and carrying out directed research projects (12 credits). In any case, the final aim is the elaboration of a doctoral thesis which will lead to a Ph. D. degree.

b.- A professional perspective consisting in specialisation courses which prepare students for applied work in the public administration and in private or consulting companies. There are several sorts of professional postgraduate courses (master, *magister*, expert, specialist) depending on the number of credits awarded by classes and lectures and the entrance requirements. They are all completed with a final applied project.

Postgraduate studies in Geography have not been subject of deep reflection and analysis, except in some interesting exceptions which are nevertheless prior to the still in force legislation and took place in a time when the offer of programmes was not as large as it is nowadays. These matters had already been tackled either from a general

perspective (Rodríguez Martínez, 1995-1996) or referred to particular offers of specialisation (Chuvieco, 1998; Rodríguez Gutiérrez, 2001). Nevertheless, in other communities of geographers, for example the British, where the competence to gain students for their postgraduate offers is particularly active, the most descriptive or critical contributions about the observed tendencies in the development of third cycle in Geography have been more frequent and continuous (Linehan, 1996; Crang, 2000; Silvey, 2002). For this reason, it seemed appropriate to deal with this cycle of university education in a decisive situation such as the adaptation of our whole higher education system to the *European Space For Higher Education* running since the *Bologna Declaration* (1999).

2. GEOGRAPHY IN THIRD CYCLE STUDIES. A FIRST APPROACH.

Since the middle of the 1980's, most public Spanish universities have organised doctoral programmes which lead to the degree of Doctor in Geography. Although the regulations allowed to offer as many doctoral programmes as fields of knowledge (Physical and Human Geography and Regional Geographic Analysis) the tendency has been to group the teaching capacity of each department in one single doctoral programme, although, exceptionally, one department may offer several programmes. It is likely that this tendency continues in the future due to obvious logical and competitive reasons, especially when the national and regional governments promote the organisation of doctoral programmes between different departments, and even between different universities, although we have to admit that these do not have the anticipated foreseen success, at least in Geography. From the information used it may be inferred that, currently, doctoral programmes specialise either in the geographic area where the university is located or in an important research field of the department which offers it. It can also be inferred that in the process of creation of doctoral programmes started in the 1980's, methodological and technical courses gained increasing significance (cartography, remote sensing, GIS, etc.). It is also interesting to see the importance given in them to applied research in regional planning matters. Lately, the tendency points to the concentration in the offer of doctoral programmes of the departments in one single programme in which contributions from the three main knowledge fields of Geography in university (Physical and Human Geography and Regional Geographic Analysis) are equally distributed. This fact, nevertheless, does not mean that in some cases priority cannot be given in doctoral programmes to a particular subject (physical environment, regional planning, new techniques, etc.) which is considered to gain a more diverse demand, either because of the academic formation of the students or because of their places of origin (Rodríguez Martínez, 1995-96:146).

The other perspective of postgraduate studies, the professional practice, is, without doubt, the most heterogeneous one as its basis is the free use of the autonomy of the university with no other limitations than those given by the university itself by intern regulations. Proof of this are the numerous degrees awarded by single Spanish universities with the aim of enabling the professional integration of university graduates, as well as the continuation of their formation. Postgraduate programmes in Geography have always had a lot of importance. This discipline usually shares common topics with other ones in its third cycle offer, such as environment, territorial organisation or local or tou-

rist development. In other cases, Geography departments lead an educational offer of professional postgraduate courses with the participation of lecturers from other disciplines or working at the involved entities. According to our information for the period 2002-2004, the Spanish public universities offer around 35 postgraduate professional courses of different levels. Subjects are very varied, though instrumental courses prevail (GIS, cartography, remote sensing,...) and try to acquire the professional integration of geographers in regional and urban analysis, management and organisation and local development, among others. Although the decision of carrying out these courses depends only on the autonomy of the university, these degrees have obviously got an ephemeral life as their costs and enormous organisation requirements often make them unfeasible if they are not sponsored by a public or private entity which helps with their funding.

3. THE INTEGRATION OF THIRD CYCLE STUDIES IN GEOGRAPHY IN THE EUROPEAN SPACE FOR HIGHER EDUCATION

The fact that the offer in doctorate courses notably increases when the number of registered students of Geography decreases in all Spanish universities, with some exceptions, is a paradox. In fact, doctoral programmes have been developing towards more attractive topics which deal with problems of concern for advanced societies (environment, territory, heritage, etc.). This is proved by the information gathered to write this article, which has been extracted from the web sites of the public universities where the doctoral programmes for the period 2002-2004¹ have been published. Nevertheless, the published information about registered students in doctoral programmes does not seem to fulfil the expectations of the current organisation system developed from the R.D. (Royal Decree) of 1998, in which the issue of a specific diploma (*Diploma de Estudios Avanzados*, Diploma of Advanced Studies) is established in order to make doctorate studies more attractive. This diploma is, in a certain extent, equivalent to a professional degree².

3.1. *The offer of doctorate studies in Spanish universities*

The large number of doctoral programmes, as well as the diversity in the offer, is the first striking matter when looking at the information we have used. Geography is present in 53 doctoral programmes carried out during the period 2002-2004, from which 50% are basically formed by geographic contents and are organised by Geography

¹ We have only found an offer of doctorate courses in Geography in one private university, the *Universidad de Navarra*, founded and directed from its origins in the 1950's by *Opus Dei*, and whose studies in Geography are widely recognised.

In what the used information concerns, the access to it has not always been easy, especially that concerning doctoral programmes sharing fields of knowledge. For this reason, we cannot guarantee the total reliability of the used information and we apologize in advance for possible lacks or deficiencies which may be detected, which are not at all our intention.

² According to the information we have from the *Estadística de la Enseñanza Superior en España* (Statistics of Higher Education in Spain), published by the *Instituto Nacional de Estadística* (National Statistics Institute) the number of students registered in all Spanish universities for the period 1996-2001 is between 350 and 577, though we detect a suspicious lack of information for some universities. Therefore, we give this information with reservations.

departments and the other 50% have an inter-disciplinary character. We will consider both modalities separately, bearing in mind that there are many universities where Geography has no individual department and other ones in which there are two departments of Geography (Barcelona, Sevilla, Complutense) and that some very big and consolidated departments (Barcelona, Complutense or Zaragoza, for example) have enough resources to carry out more than one doctoral programme (Tables 1 and 2) at a time.

a) Doctoral programmes organised by Geography departments

When trying to gain students from heterogeneous areas for doctoral programmes, for example, geographers definitely do not trust the attractive name of our discipline. This is proved by the names given to the doctoral programmes organised by Geography departments or other departments of fields of knowledge integrated in our discipline. In fact, the word "Geography" either by itself or accompanied by other terms, appears in less than in half of the denominations of doctoral programmes. It is preferred to use terms related to subjects which, even if they are fields concerning Geography, we share with other disciplines: environment, regional planning, urbanism, landscape or development. It is also frequent to find denominations related to the technical tools used for the territorial analysis and intervention, or in some cases (Alcalá de Henares) the doctoral programme is exclusively based on instrumental techniques (cartography, GIS and remote sensing) (Sancho Comíns, 1999).

When referring to programmes where Geography is not the main subject, the use of the term "Geography" in the title or the mere reference to the territory or environment are an exception. Nevertheless, in the titles of doctoral programmes there might be geographic references to regional areas of different scales (Aragon, Atlantic World, Hispanic World, Latin America, etc.). Nevertheless, it is not always possible to know about the inclusion in doctoral programmes of courses given by geographers only by their title. This might not be the ideal situation, but, at least, it guarantees the presence of Geography in doctorate studies in universities without a degree in Geography or with a small number of students. This is the case of university teachers teaching within the degree in Humanities or who form a department together with other disciplines, such as History or Sociology.

If we look at the classifying criteria, we have to refer to the courses and lectures required in doctoral programmes, both referring to the number of courses and credits, parting from the base that the law establishes the need for the students of participating in 15 of the 20 credits they need for the first period of the doctoral programme. This requirement is fulfilled in all cases, sometimes with generosity, as is the case of the Universidad Complutense, where both the programmes they offer include 109 credits. Nevertheless, the usual case is that the offer is reduced to 30 to 40 credits, two times the needed quantity for the first period. In fact, there is a mean of 10.6 courses and 40.1 credits per programme. In the whole, Spanish graduates in Geography may choose from a wide variety of 25 doctoral programmes which form a generous offer of 266 courses and 1003 credits. Nevertheless, for the moment, the mobility of doctorate students from one university to another one is actually very reduced in Spain. This is balanced by the increasing participation of Latin American graduates who come to participate in doctoral programmes to Spanish universities (Table 1).

The regional distribution of the offer of doctorate studies in Geography is also very

Table 1. Doctorate programmes organised by Departments of Geography (period 2002-2004)

Universities	Departments	Denomination	Courses	Credits
Alcalá de Henares	Geography	Cartography, GIS and Remote Sensing	9	37
Alicante	Geography	Geography	11	29
Almería	University Institute of Geography	Territorial Management, Environment and Sustainability	17	51
Autónoma de Barcelona	Geography	Geography	8	26
Autónoma de Madrid	Geography	Territory, Environment and Society	8	40
Baleares	Earth Sciences	Geography	19	68
Barcelona	Physical Geography and Regional Geographic Analysis	Environmental Management, Landscape and Geography	10	30
Barcelona	Physical Geography and Regional Geographic Analysis	Territorial Organisation and Regional Development	9	72
Barcelona	Human Geography	Geographic Thought and Territorial Organisation	9	35
Cantabria	Geography, Urbanismo and Territorial Organisation	Geography, Regional Studies and Territorial Organisation	9	40
Complutense de Madrid	Physical Geography and Regional Geographic Analysis	Analysis and Interpretation of Territorial Processes in Geography	20	69
Complutense de Madrid	Human Geography	Territorial Dynamics and Development Strategies	11	40
Extremadura	Geography and Territorial Organisation	Sustainable Development and Territorial Organisation	14	42
Granada	Physical Geography and Regional Geographic Analysis	Geographic Analysis in Territorial Organisation	13	41
Huelva	Human Geography	Environment and Territory: Planning, Management and Development	9	30
León	History 2 Geography	100 Europe: Territory, Environment, Economic Integration and Development	10	36
Murcia	Physical Geography, Regional Geographic Analysis and Human Geography	Landscape, Territory and Environment	13	39
Navarra	Geography and Territorial Organisation	Geography	6	24
Oviedo	Geography	Territorial Analysis, Representation and Organisation	4	19
Santiago	Geography	Geography: Territorial Analysis and Organisation of Space in Galicia	13	48
Sevilla	Physical Geography, Regional Geographic Analysis	Territorial and Local Development: Economic, Social and Sustainable Strategies in Andalucía and Surrounding Regions	10	30
Sevilla	Human Geography	Territorial Organisation and Environmental Strategies	8	30
Valencia	Geography	Current Problems of the Territory in Valencia and Analysis Techniques	15	45
Valladolid	Geography	Geography, Urbanism and Territorial Organisation	10	44
Zaragoza	Geography and Territorial Organisation	Territorial Organisation and Environment	16	52
TOTAL			266	1,003

Source: Web sites of the universities. Self elaborated.

wide; four out of nine universities in Andalusia carry it out, in some case there are two programmes (Sevilla); in Catalonia, in the contrary, there are only doctorate studies in Geography in the two biggest and oldest universities (Barcelona and Autónoma de Barcelona), although in the first case there are three doctoral programmes offered for the period 2002-2004. The Autonomous Community of Madrid is also important in this sense, as half its public universities carry out doctorate studies (Alcalá, Autónoma and Complutense), existing two programmes at the Complutense. In Castilla and Leon there are two universities where doctorate studies in Geography are possible (Leon and Valladolid), the same as in the Community of Valencia (Alicante and Valencia). Lastly, there is at least one doctoral programme in most of the remaining autonomous communities: Aragon (University of Zaragoza), Asturias (Universidad de Oviedo), Baleares, Galicia (University of Santiago de Compostela), Cantabria, Extremadura, Murcia, Navarra³. Only La Rioja and the Canary Islands lack this modality, although Geography is present in inter-disciplinary doctoral programme offers.

b.- Geography in inter-disciplinary doctoral programmes

The presence of studies in Geography in all public universities does not mean that their academic establishment is identical in all of them; there is not only a difference in the number of students or teachers, but also in the particular location of the teaching structure. In this sense, while in the universities where Geography has its own doctorate studies there is also a Geography department (or even several), except in the case of Huelva, in other universities it is integrated in mixed departments shared by several disciplines which have more or less areas in common with Geography (History, Economy, Sociology, Architecture, etc.). This fact is related to the location of Geography in inter-disciplinary degrees (Tourism, Humanities, Environment or in mixed degrees with History). Another case is represented by universities which do not offer regular studies in Geography for opportunity or strategic reasons (Alcala de Henares) and then have a doctoral programme which is very consolidated and well-attended. One more situation is that of universities which offer regular degrees in Geography and, either definitely or temporarily, do not offer doctoral programmes (Málaga, for example).

No matter why, there may be no specific doctoral programme in Geography or even if it exists, Geography shares many doctoral programmes with other disciplines. These relations may mean that Geography has a testimonial or minor presence, but there are also opposite cases in which Geography has an important or primary position. The information used allows detecting several situations (Table 2). In the first place, there are universities with an old and well-consolidated establishment of Geography (Complutense and Zaragoza) which have enough teaching resources to influence other doctoral programmes to which they give a territorial perspective. Another situation is given by universities where the establishment of Geography is also well consolidated but geographers have chosen to offer shared doctoral programmes (for strategic or teaching relief reasons) in which their presence is important and even mean a considerable part of the doctoral programme (over 20% of the credits); Canarian universities (La Laguna and Las Palmas de Gran Canaria) are the best examples of this case. In the third place, there

³ The name of the university is not given when it is the same as the name of the province where it is located.

Table 2. Inter-disciplinary Doctorate Programmes with Geographic courses (Period 2002-2004)

University	Denomination	Total credits	Geography courses	Geography credits	%
Alcalá de Henares	Global Change and Sustainable Development	64.5	3	12	18.6
Cádiz	Historic Societies in Cadiz	38	2	6	15.8
Castilla La Mancha	Territory and Historic and Cultural Heritage	43	2	7	16.3
Castilla La mancha	Hispanic World: Inter-cultural Heritage	52	3	15	28.8
Complutense de Madrid	State and Market: Territorial Re-organisation within Geography	95	3	12	12.6
Complutense de Madrid	Latin American Studies: Political and Social Life	66		6	9.1
Complutense de Madrid	Politic Economy of the European Union: Territory, State and Market	65	1	6	9.2
Complutense de Madrid	Environment: Social, Economic, Territorial and Legal Tools	63	8	28	44.4
Girona	Environment	84	6	23	27.4
Jaén	Space, Time and Power: Interpretations from the Historic Heritage	40	1	2	5.0
Jaume I (Castellón)	Historic Processes, Culture and Development	48	2	6	12.5
Jaume I "	An Inter-Disciplinary Perspective of Studies of Genres	33	2	6	18.2
Jaume I "	The Construction of the National State in Latin America. 18th to 19th Centuries	51	2	6	11.8
La Laguna		97	11	36	37.1
La Laguna	Education, Employment and Regional Development	71	5	15	21.1
La Rioja	Human and Social Sciences	27	1	3	11.1
Las Palmas de Gran Canaria	Islands: Societies and Cultures	74	4	11	14.9
Las Palmas de Gran Canaria	Economic, Social and Political Studies in the Atlantic World	31	2	7	22.6
País Vasco	Environment and Territory: Geography and Pre-history Perspectives	104	9	42	40.4
Pública de Navarra	Current Historiographic Schools	34	2	14	41.2
Rovira i Virgili (Tarragona)	Mediterranean Cultural Studies	52.5	2	6	11.4
Salamanca	Plurality, Isolation and Integration: Perspective from Humanities	29	2	6	20.7
Salamanca	Natural and Human Environment in Social Sciences	28	4	13	46.4
Vigo	Society, Power and Culture in History	162	2	4	2.5
Zaragoza	Study about Women		1	3	
Zaragoza	Reality and Fiction and Lies in Humanities		2	6	
Zaragoza	Security and Solidarity Conflicts		2	9	
Zaragoza	Studies about Aragon		2	6	

Source: Web sites of the universities. Self-elaborated.

are inter-disciplinary programmes where Geography has a much more solid position and may even have an equal position as the other participating disciplines or be dominant. The total percentage of credits in this last situation is clearly over 25% and in some occasions over 40%. This is the situation of three doctoral programmes about Environment: Gerona, where 27.4% of the credits are geographic; University of the País Vasco, with 40.4% of participation; and, Salamanca, with 46.4%, where the participation of Geography in an inter-disciplinary doctoral programme reaches its maximum. Lastly, there is a minor participation of Geography in shared doctoral programmes (under 20% of the credits) mainly in young universities (Jaume I in Castellon, Cadiz or Vigo, among other). In them an approximation of Geography to historic subjects is observed, maybe because Geography forms part of the degree in Humanities (Table 2).

If we consider together both modalities of doctoral programmes, the numerous amount of programmes and courses and credits is striking. To start out with, this means that abundant material and human resources are needed for results which are often disappointing because of the low number of students registered in them and, especially, because of the small number of research projects carried out. Another striking fact is the geographical concentration of the doctoral programme offer, led by the Community of Madrid, with 17.3% of the courses and 18.7% of the credits, immediately followed by Andalusia (16.2% and 14.2%, respectively). Both regions, together with Catalonia, integrate almost half of the doctorate offer with a minor or major geographic content. There is a second group of regions which occupy a middle position (Aragon, Canary Islands, Castille and Leon and Community of Valencia) with an offer between 5% and 7% of the total. The rest of the regions have a much lower participation, merely testimonial in some cases (La Rioja, for example) (Table 3 and Figure 1).

c.- Structure and contents of doctoral programmes containing Geography

In our approach, it is much more complicated to give more specific and precise details about the contents, due basically to the deficiencies of the information used to write the present article (web sites of the universities). For this reason we will mostly give percentages, as the absolute values given are not totally reliable, and as they may also have varied during the elaboration of this text ⁴.

If we take into account the different kinds of courses foreseen by the regulations of doctorate studies (fundamental, methodological and related) we can see that fundamental courses clearly prevail, as they constitute 61.4%, while methodological courses constitute 12.9% ⁵, though we have not found the correspondence in 20.6% of the courses offered. The distribution of courses in the different fields of knowledge is rather balanced between Physical Geography (20.9% of the courses and credits) and Human Geography (20.2%), being both of them slightly over Regional Geographic Analysis (15.6%), though it is interesting to see that the maximum concentration of courses and

⁴ History courses have been included in equal terms as geographic ones in Geography doctoral programmes in around 11% of the cases.

⁵ *Fundamental* courses are defined as those which deal with prime contents of the scientific, technical or artistic field to which the course is dedicated; *methodological* courses are those related to the methodology and training in research techniques.

credits can be found in "inter-area" programmes, being, in any case, History courses quite significant (10.9%). There is a similar proportion of areas if we attend to the distribution of courses according to their kind (fundamental, methodological and related). If we had to give a reason to the mentioned distribution according to areas of knowledge, we would mention its parallelism with the current composition of the census of university teachers of Geography in Spain.

d.- Directed research projects

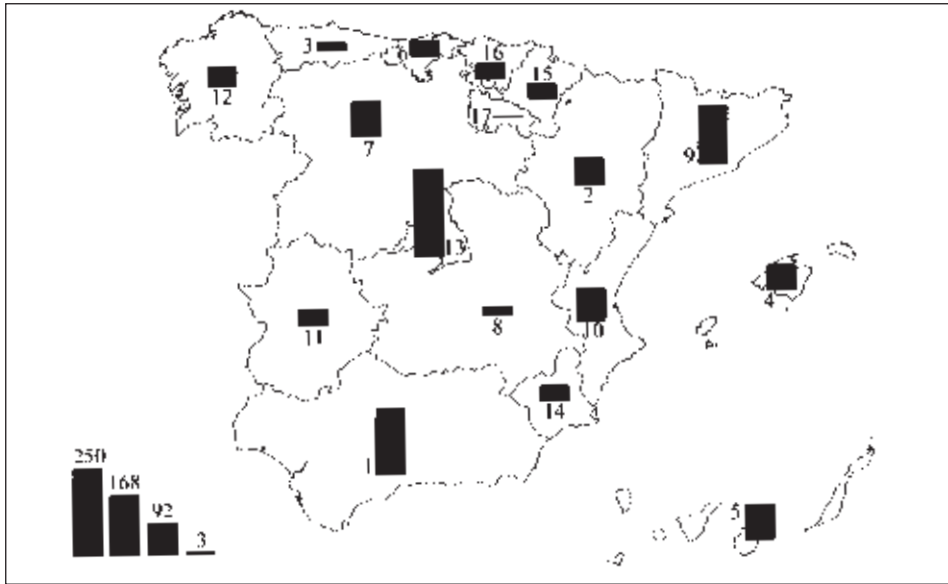
One of the most important innovations in the reorganisation of doctorate studies in Spanish universities established by the Royal Decree of 1998 has been its division in two periods. The first one is dedicated to the courses and lectures above mentioned, and the second one is the elaboration of an research project directed by one of the doctors participating in the programme and according to an offer of topics which are yearly given or up-dated. If we have already seen enormous contrasts in the offer of courses of the different universities, the differences in the directed projects are much more significant, not only in the number of credits offered, but also in their contents ⁶.

The almost 300 research projects which are yearly offered with over two thousand five hundred credits ⁷ are equally distributed among the different fields of knowledge, being the distribution of credits as follows: 24.4% Physical Geography, 23.8% Human Geography and 22.7% Regional Geographic Analysis; 29.1% have no definite correspondence, as their contents are common to two or three of the mentioned areas, receiving the denomination of "inter-area" projects. This offer is in deed very generous, but, curiously, it does not correspond to the number of research projects which complete the research process evaluated by the Board of Advanced Studies (*Tribunal de Estudios Avanzados, T.E.A.*), in charge of evaluating the whole doctorate training process, including the research project. It is therefore not possible to compare the investigating potential of current doctoral programmes between universities or autonomous communities if the particular projects which have been really directed and assessed are not known. Currently, this approach is not possible due to the deficiencies in the information available. In a mere informative sense, and selecting comparable cases according to the guiding criteria of the offer, we can say that there are about half a dozen universities (excluding universities in Andalusia, as there is no precise information about them) which appear as the most generous ones, as they give their doctorate students more possibilities of choosing, both because of the number and the diversity of the projects. Nevertheless, these are not the biggest: Barcelona, Complutense, Autónoma de Madrid, Valladolid and Oviedo, all of them with an offer of credits in research projects varying from 240 (Oviedo) to 360 (Autónoma de Madrid).

⁶ The division done by the involved departments of the research projects complicates the calculation of the credits offered. In this sense, while some departments give different titles according to the research lines of each university teacher participating (Autónoma de Madrid), others reduce the number of topics according to the systematic division of the contents of the doctoral programme (Alicante). Another possibility is that only one research project is offered which includes all doctorate students, no matter the specific topic of their research projects (Cantabria and Autónoma de Barcelona).

⁷ These research projects are given between six and, more often, twelve credits.

Figure 1. Offer of Doctorate courses in Geography in Spanish universities classified by Autonomous Communities (Period 2002-2004). Offered credits



*Autonomous Communities names can be found in table 3

Table 3. Offer of Doctorate courses in Geography in Spanish universities classified by Autonomous Communities (Period 2002-2004).

Autonomous Communities	Involved Universities	Doctoral Programmes	Courses offered per year		Offered Credits per year	
			Amount	%	Amount	%
1 Andalucía	6	7	60	16.2	190	14.2
2 Aragón	1	5	23	6.2	76	5.7
3 Asturias (Principado de)	1	1	4	1.1	16	1.4
4 Baleares (Illes)	1	1	19	5.1	68	5.1
5 Canarias	2	4	22	5.9	99	7.4
6 Cantabria	1	1	9	2.4	40	3.0
7 Castilla y León	3	4	26	7.0	99	7.4
8 Castilla La Mancha	1	2	5	1.3	22	1.6
9 Cataluña	4	6	47	12.7	168	12.5
10 Comunidad Valenciana	3	5	32	8.6	92	6.9
11 Extremadura	1	1	14	3.8	42	3.1
12 Galicia	2	2	15	4.0	52	3.9
13 Madrid (Comunidad de)	3	9	64	17.3	250	18.7
14 Murcia (Región de)	1	1	13	3.5	39	2.9
15 Navarra (Comunidad Foral de)	2	2	8	2.2	38	2.8
16 País Vasco	1	1	9	2.4	42	3.1
17 Rioja, La	1	1	1	0.3	3	0.2
Total	34	53	371	100.0	1,339	100.0

Source: Web sites of the universities. Self-elaborated

3.2. Professional postgraduate courses

The extraction of the precise information about the offer of postgraduate courses with geographic contents given by Spanish universities has been a much more arduous task carried out to fulfil the aims of this text. This is due to the fact that, currently, very few courses are organised in the Geography departments and fewer are those which have a major geographic character. Furthermore, it is technically difficult to sort out the particular information as usually universities tend to group their offer in one single section, without specifying clearly the departments involved. Not enough with these lacks, it is very difficult to tell if a postgraduate course has any geographic contents only by its title. Therefore, we cannot guarantee that the scenery we are going to present in this section is totally accurate in what number of postgraduate courses, topics and geographical distribution respects. Unfortunately, our lack of confidence in this sense is bigger than the scientific rigor of the section.

We can feel a little relieved if we take into account that other entities which probably have a bigger capacity of access to information than us have not gone over the above mentioned information problems either. We would like to highlight the praiseworthy work of the recently created (1999) Colegio de Geógrafos (Professional Association of Geographers) to give its members information about professional postgraduate courses which may be of their interest. In their directory of postgraduate courses (www.geografos.org/postgrado.htm) 64 courses are listed, grouped in four modalities: Local Development and Territorial Strategies (15.6%), Environment and Sustainability (37.5%), Territorial Organisation and Urbanism (21.9%) and Geographic Information (25%). It is not matter of an article of this sort to consider any further the contents of these courses or the specific presence of geographic courses in them, but they are interesting as they give an idea about the kind of courses which attract young geographers because they consider they supply them with training which will give them more and better working opportunities.

Without questioning if it is appropriate or not, the offer of postgraduate courses with geographic contents may cover a much wider professional scope than that of geographers. It all depends on the ability of geographers to sell their training "product" to other professionals of the territory who need a geographic approach or methodology to cover the challenges of their companies or organisations. In my opinion, a solid education in territorial contents or use of tools should be positively valued both by geographers and by non-geographers. Without doubt, this is the key to an important aspect of the social utility of our profession.

Despite the above mentioned practical difficulties we have been searching postgraduate courses organised by Geography departments or, at least, with a significant presence of our discipline in them. The range of topics found is considerably smaller than that of the Professional Association of Geographers. In fact, almost half of the 35 courses found (44.1%) deal with training in instrumental techniques which are mainly practical (computerised cartography, documentation, GIS, remote sensing) and are especially present in the universities of Barcelona and Gerona, apart from the well-established course of Alcalá de Henares (Chuvieco, 1999; Sancho Comíns, 1999). The rest of the courses deal with three subjects, which altogether compose the 50% of the educational offer: 23.5% deal with the problems of development, a matter of concern also in other

geographic educational institutions (Silvey, 2002; Rodríguez Gutiérrez, 2001), sometimes using general perspectives, and sometimes referred to the local scope, without lacking some courses which deal with specific matters (rural areas, tourism, etc.). 14.7% of the courses use an approach with important social and cultural contents, which, in fact, is not very frequent in the Spanish offer of postgraduate courses in Geography, as opposed to the case of other countries (Ellemor, Robinson and Tonts, 2001). In our case such an approach has specialised in the cultural and/or linguistic integration of migrants, in which the university of Lerida is important, offering five courses. Finally, 11.8% of the courses deal with urbanism and territorial organisation; management of the heritage has a clearly minor position, as there are only two courses about it. From the discussed information it can be inferred that the instrumental "merchandise" of geographers in the market of postgraduate courses is clearly overvalued. Without willing to evaluate the prominence of instrumental techniques in the everyday tasks of the professional geographer, a debate could be opened about the perspectives of Applied Geography in the beginning of the 21st century, whose professional profiles probably need to be revised and up-dated bearing in mind the new and imaginative employment possibilities running.

Respecting the academic level of the mentioned postgraduate courses, together with about ten masters, courses with less hours of classes and lectures prevail, such as specialisation or expert courses, with between 20 and 30 credits. Lastly, the geographic distribution of the analysed professional courses is interesting, as over 50% of them take place in universities in Catalonia (20), being the presence of other autonomous communities more modest and taking place in isolated cases. A last matter of consideration is the type of university which promotes these courses. It is surprising that almost half of the courses are offered by two recently-created middle-sized universities in Catalonia (Gerona and Lérida), contrasting with the modest role of the two oldest, biggest ones (Barcelona and Autònoma de Barcelona, with two courses each). Outside Catalonia, the same irregular feature repeats, as small, young universities such as Huelva and Extremadura have more professional postgraduate courses than others which are older and bigger (Autònoma de Madrid, Oviedo, Santiago, Valladolid or Zaragoza, each one of them with one course). The fact that the initiative of a particular person or group of people with good relations in the public local or regional administrations are more important than the dimensions or even the scientific position of the university may help understand the mentioned peculiarity. On the other hand, these educational offers are also aimed to reinforce a dynamic image of the university which organises them, as well as its compromise with the educational needs of the local society and its capacity of effect upon its area of influence.

4. THE PRODUCTION OF DOCTORAL THESIS, AN INDICATOR TO MEASURE THE VITALITY OF DOCTORATE STUDIES

According to the current regulations of doctorate studies, the traditional job opportunities are not only teaching or research, which require the elaboration of a doctoral thesis. We have already stated in the text how one of the innovations of the current doctoral third cycle is to attract an enough number of students which guarantees its feasibility,

although they may not be particularly motivated to carve out a career as university professors or investigators. This would explain to a large extent the direction of many doctoral programmes in Geography, where there is a larger concern about the applied facets of our discipline than for basic research. In fact, not all doctorate students finish the second period, consisting on a directed research project, and even less manage to finish the doctorate cycle with the elaboration of a thesis and its positive evaluation.

The proportion of third cycle students who have accomplished a doctor degree after 1998 shows numerous contrasts between universities. As we have no liable statistics about the registered students for doctorate studies in Geography, we cannot give a *doctoral productivity index* (thesis/studentsx100). What we have is an individualised register for the doctoral thesis read in Spanish universities organised by academic years (<http://www.mcu.es/TESEO>) since 1976, improved since 1998⁸. Each university therefore has its own register with full information about the student, the thesis and the department where it has been done. Now then, managers of the data base have used it in a not very convincing way, as they have used a definitely old-fashioned classification, that of the UNESCO, which divides Geography in four prime sections (Economic, Historic, Human and Regional Geography, being Physical Geography included in the section Earth Sciences), which, at the same time, are divided in sub-sections which are not at all equivalent to the ones in the recent development of Geography. Furthermore, a too wise criterion has been used when including each thesis in a classification which lacks any kind of equivalence with the current sections of our discipline: each one of them is included in several sub-areas, so if we count all the existing registrations of thesis which have been read, the statistics for the period 1999-2002 are clearly amplified by between 20% and 50%.

Due to this, it has been necessary to examine the doctoral thesis TESEO data base in order to find out the real number of thesis which had been read in Geography departments (including those in which it is associated to other disciplines) in Spanish universities during the period 1999-2002. After having studied carefully this data we can state that doctoral productivity is markedly reduced and is even still decreasing. In the analysed series, the read thesis in universities (most of them public) have reached the number of 149, which is not excessive, distributed in unequal two-year blocks, as for the period 1999-2000 each year counts with 49 thesis (32.8% of the total) and for the period 2001-2002 half of the number of thesis was read each year, with a minimum value in 2002 (22 thesis, that is 14.8% of the analysed series). These values have evidently no relation with the number of doctoral programmes where Geography is present, both from the point of view of the number of courses given as for the several thousands of credits in directed research projects. Trying to find a reason for the unbalance between the numerous doctoral-course offer and the scarce result of doctoral productions, it is not risky to think about the lack of working possibilities for young doctors in universities and public research entities (mainly at the *Consejo Superior de Investigaciones Científicas*). The loss of students in the degree of Geography is a common worry which is reflected and continued in the lack of incentives which young geographers have to face when assuming the long and arduous way which leads to a doctoral thesis, which, for most of them,

⁸ The R.D. of 30th. April 1998 which regulates the Third Cycle, also establishes the elaboration of a summary register for each thesis with information yearly given by the Doctorate Commissions of the universities.

will be a "blind alley".

A quick look at the distribution of thesis according to the different universities during the mentioned period shows a high concentration (by about 53.7%) in about six of them. The University of Barcelona stands out, as the number of thesis read is held every year and reaches 31 in four years. We risk to give as hypothesis for its supremacy the wide doctoral offer and the numerous affluence of Latin American doctorate students together with the long-lasting and booming relationships with Latin American geographers. Another important position in what the reading of thesis is referred is held by the University of Alcalá de Henares (10.1%). This may surprise for a department where there is no degree in Geography, though its specialisation in postgraduate courses with the most advanced techniques in cartography, remote sensing and GIS attracts doctorate students interested in its application in different research fields, from the optimisation of equipment to the analysis of natural risks or the management of resources. The Complutense de Madrid (9.4%), with a wide and diverse doctorate course offer, the Autónoma de Barcelona (6.7%) and, in the same level, Santiago de Compostela (6.7%) also hold distinguished positions. The universities of Sevilla and Valencia occupy a lower place in the scale, with 7 thesis each for the period 1999-2002.

A study of doctoral thesis referred this time to all universities in a particular Autonomous Community, and not to each specific university, gives us a different perspective which is not less eloquent. Although widely known, it is still interesting to highlight that, as well as in many other aspects, the production of doctoral thesis in Geography is most important in the autonomous communities of Catalonia (26.7%) and Madrid (24.7%), as in them over 50% of the thesis were read in the considered period. If we take into account another community, Andalusia, we can observe that almost two thirds (65.1%) of the thesis have been read in only three autonomous communities. Valencia, by 9.6% and Galicia, by 6.8% would follow. In short, four fifths (81.5%) of the Spanish doctoral production in Geography has taken place in less than a third of the regions in Spain. This is an evident unbalance to think about.

Respecting the investigated subjects in the four-year period considered and disregarding the old-fashioned, ambiguous classification done by the managers of the mentioned data base and according to a more familiar, clear classification we have observed how Human Geography (44.5% of the thesis) has more importance than Physical Geography, 26.7%, and Regional Geography, 13.7%. Nevertheless, it is true that thesis classified under Environment (9.6%) and Instrumental Techniques (5.5%) are very clearly related to Physical Geography.

5. CONCLUSION AND PERSPECTIVES FOR THE END OF A CYCLE

The current development and organisation of Third Cycle studies in Spanish universities allow some conclusions:

1.- In the twenty years considered, doctorate studies tend to show an increasing applied and technical orientation, a fact which is coherent with the scarce perspectives for doctors in Geography in universities and research centres.

2.- This fact explains, though it does not justify it, the decrease in the number of doctoral thesis for the period 1999-2002, except in those universities with doctorate courses

dealing with applied subjects as a scientific aim.

3.- It is surprising, on the one hand, that the large number of doctoral programmes offered by Geography departments coincides with an important decrease, which is very worrying in some cases, of students of the degree in Geography. On the other hand, this fact justifies that departments want to gain students from other degrees.

4.- The presence of Geography courses in inter-disciplinary doctoral programmes is justified by the fact that Geography is a "mixed-subject science". Being its aim to enrich many other fields of knowledge by giving them a spatial dimension makes geographers praiseworthy. Nevertheless, the mixed and large number of different, heterogeneous courses, seminars and projects make the misunderstanding of its message and the loss of identity a risk.

5.- For this reason and from our point of view, we find very praiseworthy the inter-disciplinary doctoral programmes in which Geography is the prime subject and even the centre of a particular doctoral programme. Although they have never been done in Geography, doctoral programmes promoted by several Geography departments may be an unavoidable formula to overcome the large competence of related or similar disciplines now that the regulation of postgraduate programmes is going to be revised.

6.- From the sample of postgraduate studies organised by Geography departments studied in this article we can deduce that the orientation towards instrumental matters is predominant. Nevertheless, in the market of professional postgraduate courses it would not be good if Geography programmes would immediately be related to the tools needed for urban or environmental studies, be as sophisticated as they may. On the contrary, we should aim to give a theoretic, conceptual message and an analytic, suggestive capacity which would be positively valued in all matters related with the space, for which Geographers have a well-known capacity of understanding and intervention.

During the last stage of elaboration of this text, the victory of socialists in the elections has taken place, with the subsequent formation of a new government of this political sign. This new Government has been declaring its relevant will to introduce important modifications in the university regulations included in the *Ley Orgánica de Universidades* of December 2001. For the moment, we do not know how and in what extent the new political situation will influence postgraduate studies. Our main doubt now is what is going to happen with the Project of Royal Decree regulating post-graduate university studies and the issue of official diplomas of Master and Doctor, whose articles had been subject of diffusion and discussion since the middle of 2003 and, as far as we know, had passed all requirements for its application before its publishing in the B.O.E. (*Boletín Oficial del Estado*, Official State Bulletin), where all laws and regulations are published. In any case, if there are not many changes, it seems to be confirmed that the new regulation of the postgraduate cycle will be in force in the academic year 2004-2005.

Fundamentally, and in compliance with the agreements which led to the creation of the *European Space For Higher Education*, one of the most important modifications foreseen in the re-organisation of the third cycle will consist, disregarding the political colour of the government of Madrid, in the definite integration of the studies leading to acquiring the Doctor and Master degrees. To a certain extent, the double perspective of the third cycle until now (professional or for research) will be discussed again. The main

change consists the introduction in the Spanish university system of an official Master degree, which, until now, was part of the optional offer of the universities when using their autonomy and as one among the degrees awarded by single universities. The change which may be foreseen reduces the number of hours of class in official postgraduate programmes in masters, and the doctorate will be limited to the elaboration of a doctoral thesis with some specific educational complements which help carrying it out. After almost 20 years with the current system in force, a new adaptation period starts for third cycle studies (in the future, these will officially receive the name of Post-graduation). The change is very deep and a complex adaptation period is foreseen which is not without risk for our discipline, as we will be obliged to adapt the message given in it both to a new academic structure and to the competence with other subjects with which we share a very similar sector of the market. Many current doctoral and professional post-graduation programmes are in danger of disappearing. The horizon of the year 2010, deadline for the end of the adaptation period, is, for good or for bad, just around the corner.

A good starting point for the adaptation to the model imposed by the Bologna Declaration is the call given by the Ministry of Education, Culture and Sports of a "quality mention" for doctorate courses, which has led to an increase in the requirements regarding contents, methodology or coordination, among other. On the other hand, it has also provided new resources and enabled the incorporation of teachers from outside the departments as responsible for teaching in them. In the only call assessed until now with participation of doctoral programmes in Geography, the results have been acceptable. In fact, the doctoral programmes in Geography of the following universities have received the "quality mention" for one academic year: Autónoma de Madrid, Autónoma de Barcelona, Barcelona (2) and Sevilla. Nevertheless, the procedure used to give such a quality mention, and, especially, the always controversial intervention of the *Agencia Nacional de Evaluación de la Calidad y Acreditación, ANECA*, (National Agency for the Assessment of Quality and Credentials) has aroused deep critics from different sectors. In any case, no matter what the procedure may be and who is to apply it, what is undoubtedly necessary is the need of dignifying the Third Cycle in the only way which may be required from the university world: rigor and quality.

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II

RESEARCHING IN GEOGRAPHY

INCORPORATING NEW TECHNOLOGIES INTO SPANISH GEOGRAPHICAL RESEARCH

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1. INTRODUCTION:

The growth of Geography in university curricula over the 1970s and 1980s, and the ever more important role of geography professionals working in public administration or consultancies, has brought about a notable change in geographical research in practically all of the sub-divisions of the discipline. However, this progressively greater social acceptance of Geography has not always meant a concomitant transformation of the ideas and methodology traditionally used by our discipline. To us it seems particularly true with regard to technologies related to Geography that despite being part of most university Geography departments are still not accorded much importance in the research conducted there. To be observed, then, is a notable disconnect between the demands society places on our discipline, and the specializations taught by professors.

2. GOALS AND HYPOTHESIS:

This report will review the role that some spatial analysis technologies (which we may qualify as "new technologies") play in Spanish geographic research. We refer especially to Remote Sensing (aerial or satellite), Geographic Information Systems (GIS), and related technologies, especially positioning systems (GPS), Photogrammetry, Digital Cartography, Artificial Intelligence, Spatial Analysis, etc.).

We shall use two working hypotheses. First, that these disciplines are indispensable for the everyday practice of land-use analysis and management, and should also be for Geography. This is made manifest in the job market, and the interest shown by related land-use and analytical sciences that use these technologies. Research activity on the part of geographers in the more advanced countries may serve to illustrate this for us, especially with regard to the impact their work has in comparison with the impact of other

professionals. This does not mean, obviously, that all geographers should be experts in these technologies and conduct research with and about them, but should be at least familiar with the basics and evaluate their possibilities for the actual research they undertake. We understand that it makes no sense for a geographer to ponder, though it happens sometimes, whether Cartography is or is not a part of Geography, or whether a geographer should or should not have a certain knowledge in Cartography in order to research geographical subjects. In the same way, it does not make sense to continue asking ourselves whether or not GIS or remote sensing are part of our discipline. We will return to this subject at the end of this article.

Once the "geographic" dimension of these technologies is made clear, the second scope of this paper deals with comparing the results of Spanish geographical research in these new technologies with those from other countries. Here our second hypothesis is that Spanish geographic contribution to the use and development of these technologies is not as well represented as that of other countries, because of the still dominant views about Geography in Spain.

3. METHOD OF ANALYSIS:

The above hypotheses required us analyze, on one hand, the role of geographers in research conducted with and about these technologies (e.g. GIS and remote sensing) in Spain and elsewhere, in order to determine whether or not the Spanish situation is at par with the more technically-advanced countries. On the other hand, we needed to consider the importance of these technologies in geographic research by comparing the Spanish and other countries' situation.

To reflect on these issues, we have come up with an inventory of papers published in the most important journals, whether they deal principally with 1) the technologies themselves, or 2) Geography as a discipline. From an analysis of the first of these, we may deduce whether geographers are pre-eminent or not in GIS or remote sensing research. By reviewing the second set, the central issue is whether or not these research instruments have penetrated into geographical research. Finally, by comparing the data obtained for Spanish and foreign journals, we can determine whether these situations are equivalent.

In the first objective, we have selected journals having the greatest impact (according to the *Science Citation Index*) on GIS and remote sensing. They are, respectively, *International Journal of Geographic Information Systems* (now *I.J. Geographic Information Science (IJGIS)*), and *Remote Sensing of Environment*. In order to define trends, the articles published in 2003 and ten years before, 1993, have been analyzed. As we have said, this means surveying the proportion of articles published by geographers with respect to the total number of articles published, and analyzing trends over the last decade. In order to compare the Spanish situation, we have selected *Revista de Teledetección* (published since 1993 by the Spanish Remote-sensing Association – AET), and *Geofocus*, published by a working group on quantitative methods, GIS, and remote sensing of the Association of Spanish Geographers (AGE). In this last case, we can only know the current situation, since the journal just began publication in 2001. Also, it is not entirely comparable to the *IJGIS* since it includes not only GIS but all geo-

graphical information technologies. In the case of the *Revista de Teledeteccion*, instead of considering only those articles published in 2003 and 1993, we brought together the articles published during the four years around these two dates since the number published each year is much less than that for the foreign journals being considered.

The second factor refers to the role that these technologies play in geographical research, and for which we have analyzed the most-esteemed Spanish journals, e.g.: *Estudios Geográficos*, *Anales de Geografía de la Universidad Complutense de Madrid*, *Documents d'Anàlisi Geogràfica*, *Eria*, *Cuadernos de Geografía de la Universidad de Valencia*, *Cuadernos Geográficos de la Universidad de Granada*, *Geographically*, *Serie Geográfica*. For reference, we consulted *Annals of the Association of American Geographers*, *Annales de Géographie*, and the *Transactions of the Institute of British Geographers*. Also in this case, we have compared the articles published in 2003 and 1993, while in the case of Spanish journals we included articles published in recent years.

It should be made clear that in this review, we consider as "geographers" those researchers who work in departments bearing the denomination of Geography. It is very difficult to know whether all of these are indeed geographers, or whether geographers have written articles published by other academic departments, e.g.: *Environmental Science*, *Urban Analysis*, and *Geomatics*, for instance. As is well known, in other countries such as the USA, the employment of professors and researchers in a given department is not guided by academic titles but by their demonstrated competence in the given field or interest of that department. As a consequence, Geography departments may employ physicists, foresters, geologists, or biologists, while geographers may also work in related departments. That this occurs in Spain, albeit to a much lesser degree, is no obstacle to our final objective, because if a Geography department employs these professionals it is an indication that it is interested in the technologies considered here.

Finally, we have added, as a control factor to this inventory of journals, the presence of these technological disciplines in both under-graduate and graduate university curricula. In this case, we have limited the inventory to courses offered by Geography departments for the purpose of analyzing whether or not the development of research is related to their teaching function.

4. RESULTS:

4.1 *The role of Geography in research on remote sensing and GIS.*

As we proposed in our hypothesis at the outset, the role of geographers is very relevant in research conducted with and about the technological disciplines reviewed in the present work. (Table 1).

As an indication of the strength of the discipline, the remote-sensing journal selected, *Remote Sensing of Environment*, published a total of 210 articles in 2003 – more than double than in 1993. This trend is similar to other specialized journals such as the *International Journal of Remote Sensing*, *Geocarto International*, and *IEEE Transactions on Geoscience and Remote sensing*. Of these 210 articles, 65 have geographers among their authors: a proportion equaling more than 30%. The trend is gro-

wing, since in only 13 % of the articles 1993 were there geographers cited as authors. The subject matters dealt with by geographers are quite varied and range from forest environment, desertification, growth and urban environment, to coastal regions, glaciers, and oceanography.

A comparison of these data to the equivalent Spanish publication, *Revista de Teledetección*, shows a markedly poorer situation, since of the 85 articles published between 1999 and 2003 in only 10 was there participation by geographers (about 12% of the total). This is a drop from the previous dates of reference (1993-1997) when there was a 17% participation. The conclusion is even more negative if we considered the concentration of this participation in but two academic departments (University of Alcalá and Autonomous University of Barcelona), and the Council for Advanced Scientific Research (CSIC) which provide 70% of the total published. Here then we can conclude that, apparently, remote sensing has not been admitted to Spanish geographic research even while it has grown among professionals in related disciplines.

With regard to Geographic Information Systems (GIS), participation in innovative research on the part of our colleagues in other countries is even more evident, since geographers participated in more than 70% of the 37 articles published in 2003 by *International Journal of GIS*. This more than doubles the figure for 1993, which stood at approximately 32%. Here, in contrast with remote sensing, the journal has not expanded its coverage very much, since over this ten-year period it had increased the number of articles published by only 8%.

Table 1: The role of geographers in remote-sensing and GIS journals

	Recent articles (1999-2003 for RT)			Previous articles (1993-1997 for RT)		
	Total	Geógraphers %		Total	Geógraphers %	
Remote Sensing of Environment	210	65	30.95	104	14	13.46
International Journal of G.I.S.	37	26	70.27	34	11	32.35
Geofocus (since 2001)	19	10	52.63			
Revista de Teledetección (RT)	85	10	11.76	53	9	16.98

If we compare the role of geographers of other countries in the development of this technology with that in Spain, it again confirms the previous comment since the proportion of articles written by geographers in *Geofocus* (2001-2003) drops to 52% - almost 20 percentage points less than in the IJGIS. To be kept in mind, as we said earlier, is that *Geofocus* is produced by a group of geographers and so therefore this difference would have been certainly much higher if it had been a GIS journal in question. In this case, we cannot draw trends since *Geofocus* only began publication recently.

In summary, for both technologies we can come to two conclusions: 1) that Geography is, internationally, a leading science for its innovation in remote sensing and GIS that is certainly further advanced than the "conventional" sciences in publishing high-impact research results, 2) that Spain lags a great deal behind the role our foreign colleagues play in these technologies. In other words, our science is, internationally, quite tied to these technologies, while in Spain this is not the case, at least as far as the relative weight of the Spanish presence in specialized publications is considered.

4.2. The role of remote sensing and GIS in geographical research:

Before demonstrating the weak position of Geography in Spain with regard to these new technologies, as well as hazarding a few explanations, it seems necessary to determine whether this apparent lack of interest in remote sensing and GIS is also found in journals that are specifically geographical. In other words, in order to confirm the above, we would have to discard that there may be an important role of geographers in these technologies even though restricted within the boundaries of geographical literature. It is because of this that we can do an analysis similar to the preceding section of this study dealing with domestic and international geographic journals.

Table 2 shows the three publications that deal with new geographic information technologies and which are fairly representative of the trends and subject matters studied in three countries important for advancing Geography: France, USA, and Great Britain.

Table 2: Studies on new technologies published in international geographic journals.

A) Year 2003

Journal	Total articles	GIS	Remote sensing.	AI	SA
Annales de Geographie (France)	31 (3.2%)	0	0	1	0
Annals of AAG (USA)	46 (23.9%)	3	1	4	3
Transactions of IBG (UK)	20 (5%)	0	0	1	0

(% indicates the total weight of new technologies in each journal)

B) (Year 1993)

Journal	Total articles	GIS	Remote sensing.	AI	SA
Annales de Geographie (France)	20 (0%)	0	0	0	0
Annals of AAG (USA)	27 (14.8%)	0	0	0	4
Transactions of IBG (UK)	26 (7.6%)	1	0	0	1

GIS: articles that utilize Geographic Information Systems.

Remote sensing: articles that utilize remote sensing.

AI: articles that deal with issues and technologies derived from Artificial Intelligence.

SA: articles that use statistical analysis and procedures from spatial analysis.

The general mean of the three journals is 13.4 % in the year 2003, while it was only 8% in 1993. Therefore, these technologies hold an increasingly lesser place in the geographical research in these countries and, without a doubt, in Geography world-wide. There are notable differences between these countries. The lowest incidence of new technologies is noted in the journal from France, while Great Britain holds second place after the USA.

A circumstance that seems significant is the notable difference between the rather larger volume of works undertaken by geographers in specialized technical journals and the largely lower number of studies of these technologies published in geographic journals of general interest. One possible reason for this is that geographers involved with these issues prefer to publish in the ever more numerous and specialized journals such as: *IJGIS*, *Transaction in GIS*, *Geographical Systems*, even if they are not specifically geographic.

To us it seems that this may indicate a certain tendency for creating an ever-growing divide among geographers: between those specialized in these technologies, and the rest. This can be worrisome, as initiatives continually arise for creating new disciplines: Geographical Information Science (Bosque Sendra, 1999), Geomatics, Geo-computing, Geo-informatics, etc. Also worth mentioning is the appearance of university departments and academic faculty positions bearing these names. There is then a risk that new disciplines may emerge that will attract many geographers away from Geography, taking with them the use and research on these issues to the detriment of our discipline's future.

In the case of Spain, data on publications on new technologies is found in Table 3.

Table 3: **Publications on/about "new technologies" in Spanish geographic journals**

Journal title	Year	Total	GIS	Remote-sensing.	AI	SA
<i>Estudios geográficos</i>	1999-2001	58 3.4%	2	0	0	0
<i>Anales de Geografía</i>	1999-2002	66 10.6%	5	2	0	0
<i>Documents d'Analisi</i>	1999-2002	34 5.8%	1	1	0	0
<i>Eria</i>	1999-2003	83 0%	0	0	0	0
<i>Cuadernos. Geogra. Valencia</i>	1999-2002	64 10.9%	3	2	0	0
<i>Cuadernos Geogr. Granada</i>	1999-2002	34 2.9%	1	0	0	0
<i>Geographica</i>	1999-2003	45 20%	3	0	0	6
<i>Serie Geográfica</i>	1999-2003	51 49%	23	2	0	0
Total		435	38	7	0	6
			8.7%	1.6%	0	1.3%

An average of 11.6% of the articles, published in the journals here being studied, relate to new technologies. Nevertheless, it should be noted that in one of them (*Serie Geográfica*, of the University of Alcalá) the percentage is much greater than the rest, reaching to almost 50%. If we were to set aside this clearly anomalous case, the average drops to 6.7%. That is to say that it is half of what occurs in the international geographic journals analyzed for 2003. It is reasonable to conclude that Geography in Spain utilizes these technologies to a much lesser degree than in other countries, except for some specific exceptions.

In order to enrich this analysis of the trends towards inclusion of these technologies in geographic research, it is useful to analyze the ISOC bibliographic database which provides to us the subjects most often treated with new technologies in geographic publications. It is not a simple task to separate in this database the work undertaken by geographers (e.g. university geography faculty) from contributions of professionals of these technologies: geodesic and cartographic engineers, biologists, geologists, physicists, etc. Therefore we shall treat together all the publications found.

As a whole, the following numbers have been found for works on the principal geographic information technologies: *GIS*: 235 references that mention GIS in the description of the articles. *Remote sensing*: 128 references to this subject that do not mention GIS in the article descriptions. *Spatial Analysis* (statistics, multi-variant analysis, regression): it is difficult, in the present day, to encounter works that utilize statistical methodology but do not use GIS or remote sensing simultaneously. This is a relatively new circumstance. Altogether approximately 30 references include multi-variant analysis as a description, while the great majority also deals with GIS.

Hardly any reference to procedures derived from artificial intelligence (e.g. cellular automata, genetic algorithms, multi-agents, etc.) has been found, while only two works were found to use neuronal networks to carry out their tasks (both of them dealt with factors leading to forest fires). These subjects, the most recent and innovative of the new geographic technologies, have apparently not been incorporated into the panoply of tools utilized in Spanish geographic research.

We can ferret out more detail from the issues treated in each of the preceding sections. However, we can consider that the majority of the referenced publications propose to show the concrete application of these technologies to diverse subject matters and problems. The publications that attempt to share methodological and instrumental innovations are much less abundant.

GIS: The subjects studied in GIS applications are quite diverse and can be divided initially into those more closely related to environmental problems and those related to economic and social questions. Among the first, the most numerous are: bibliographic reviews of this subject; application to hydrology; atmosphere; soils (erosion); vegetation (land use, biogeography); fauna (animal habitat shrinkage, birds); land morphology; homogenous relief units; landscape (visual quality and fragility, structure and morphology); risks (extreme precipitation, volcanic, landslides, technological, vulnerability of the land, forest fires); environmental impact, locating installations with undesirable environmental impact (waste dumps, etc.); generation of variables, precipitation; potential land use; production of renewable energy. Among the Spanish journals on GIS and social and economic problems, the most notable subjects are: rural issues, intensification of agriculture, estimation of agricultural areas (GIS and remote sensing); urban problems, quality of life and climate, city parks, urban soil atlas, traffic accidents; population distribution, urban growth, land ownership; transportation, accessibility, potential demand for transport; locating facilities, hospitals; models of locating and placement; waste management; locating business and industry; geo-marketing, defining market areas; changes in soil utilization, urban and rural; GIS and local administrations; local development; models of spatial growth.

With regard to remote sensing, the subjects most treated in publications were: soil coverage, urban climates, potential evaporation, forest fires, and innovations in instruments.

4.3. The role of geographers in teaching remote sensing and GIS.

If we consider the great profusion of courses in remote sensing and GIS in Spanish university geography departments (we have noted 25 universities teaching these disciplines), the relative lack of geographers in the publications dealing with these issues is notable, as is the low representation of these disciplines in geographic research. In an inventory based on information from the various departments available on the Internet, we have observed that almost all of them include at least some of these technologies among their required courses, while some of them provide specialized courses at the Master degree level (e.g. Alcalá, Zaragoza, Girona, Barcelona), as a specialized doctorate program (Alcalá), or as part of a diversified doctorate studies (Zaragoza, Alicante, Madrid). Certainly, some of these departments are the most active in research with or about these technologies, but it does not seem necessary to continue reinforcing the con-

nection between research and teaching if they want to impart these disciplines at an adequate level. This would also facilitate the specialization of some students in these universities, and make possible their insertion in a job market that is actively looking for well-trained professionals in these disciplines.

Perhaps one of the keys for explaining the scarce involvement of geographers with and about remote sensing and GIS is the marginal role that these play in university curricula; since in the 25 Spanish universities that give courses in these subjects, 13 make these optional, thereby assigning a lesser importance to these as a part of the formation of geographers. This situation contrasts considerably from the trends shown in more advanced countries, which show a growing demand for geographic professionals and a profusion of research by professionals in related fields. Whether or not this trend should be maintained depends on the drive and leadership that we geographers provide so that these technologies might become integrated into our science in the future as do our colleagues in the UK and USA, rather than as extraneous disciplines to which we go looking only for technical support.

5. CONCLUSION: WHEN WILL WE WAKE UP?

As a conclusion of this brief analysis of trends in the use of remote sensing and GIS in Spanish geographic research, it can be deduced that the role of Spanish geographers in the utilization and study of these technologies is much smaller than that of our colleagues in more advanced countries. There is a troubling trend, in Spain and elsewhere, among the geographers exercising these disciplines to leave behind the traditional geographic forums.

It is worth pointing out that a good number of these geographers still do not consider these technologies as being part of our science, nor even as related fields that are worth using. When society shows an interest and demand for these disciplines, then they are included in academic curricula yet rarely in a leading role. This may explain that these disciplines are so little connected to the research undertaken by Spanish geographic departments.

In our opinion, the remote sensing and GIS disciplines are allied with ours as cartography, climatology, or geomorphology, as much for their study content as for their technical equipment. They provide resources with a great potential for tackling most basic issues of traditional geography: generating spatial information, locating phenomena, undertaking spatial analysis, and following change over time (Dobson, 1993; Estes, et al, 1980).

These are also important technologies in the labor market: GIS is the second greatest sector in the development of computer graphics, while GPS provides an enormous market for applications related to geo-spatial positioning (transportation, localization, risk management, etc.). It does not seem at all reasonable then to reject technologies with such attractive socio-economic characteristics developed by colleagues in other countries, as noted by the considerable percentage of geographers involved in the most innovative research in these fields.

In our opinion, it is not enough to timidly introduce courses related to these technologies to academic curricula if they do not bring about a greater involvement of the geo-

graphers most capable in the study and research of these disciplines. For someone to continue questioning, at this advanced stage in the development of the discipline, whether or not these technologies are part of Geography (as can be discerned at meetings and critiques), to us seems quite regrettable.

In summation, in our opinion, there are two risks facing Geography and these technologies. The first is that the geographers who use these technologies may feel tempted to move to other academic settings or disciplines, and that Geography would lose thereby important fields for study. Secondly, at least in Spain, other groups of professionals may try to marginalize and expel geographers from these fields, thereby monopolizing the issue and impeding Geography's contributions to the development of these technologies. In both cases, Geography as a discipline would miss opportunities and lose the interest of many people. To avoid these and other dangers, Spanish geography needs to play a more active role in the dissemination and advancement of these technologies while integrating them progressively more as tools in daily use in both research and teaching.

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SPANISH UNIVERSITY GEOGRAPHY DEPARTMENTS AND THEIR SCIENTIFIC RESEARCH

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1. FACULTY AND RESEARCH CENTERS

Geographical research is found at 42 Spanish universities and 45 departments, 34 of which are made up solely of personnel belonging to fields of knowledge pertaining to Geography, e.g. Regional Geographical Analysis, Physical Geography, and Human Geography. Eleven have researchers in these fields, plus a high number of non-geographers (who are the majority in most cases) and two have Geography involved albeit to a small degree. In these departments, found almost exclusively in traditional Faculties such as *Filosofía y Letras* or *Geografía e Historia* (Humanities or Geography and History), an assortment of more than 800 geographers are working (according to data from the Spanish Council of Universities and web pages for each of these): a number that has remained stable for five years. By correlating the total number of researchers (820) with the total departments (45), results in an average of just over 18 researchers for each center. In addition, while taking into account that in five universities there are but two Geography departments, and an average of 20.5 researchers per university.

However, the numerical importance and the institutional relevance of these centers, in which the majority of Spanish geographical research takes place, are quite unequal. In only five university departments there are 30 or more researchers; in 15 departments, the number of geographers is between 20 and 30; in other 15 departments, there are between 10 and 20; and in 10 universities, the number of geographical researchers does not exceed 10. Therefore, 50% of all researchers are concentrated in the 16 most important departments and, while taking into account that there are cities with more than one university and five universities with two departments each, there is a notable spatial concentration of university geographers in a relatively small number of urban centers.

Among those responsible for geographical research, it is the Full Professors - *Catedráticos de Universidad*, University Professors - *Titulares de Universidad*, Full

Professors in Bachelor's degree - *Catedráticos de Escuela Universitaria*¹, and Professor in Bachelor's degree - *Titulares de Escuela Universitaria*, belonging to university faculties that are in the majority. These tenured professors in Geography departments constitute 71% of the researchers in the field; the remaining 29% corresponds to non-tenured professors: Assistants-Ayudantes, Associates-Asociados, and Collaborators- Colaboradores, assigned or temporarily employed by these departments to help in their projects.

Table 1. Distribution of research faculty in Geography Departments.

	Tenured	Non-tenured	Total
RGA	198 (70.0%)	85 (30.0%)	283
PhG	139 (63.2%)	81 (36.8%)	220
HG	246 (77.6%)	71 (22.4%)	317
Total	583 (71.1%)	237 (28.9%)	820

RGA: Regional Geographical Analysis; PhG: Physical Geography; HG: Human Geography.

University Professors are notable for being the most numerically important group in university Geography, since it represents almost 50% of the total and 70% of tenured researchers. The next group consists of Full Professors, which is approximately 13% of the total and 18% of tenured researchers in geography departments. The other two groups of tenured teaching professionals, Full Professors in Bachelor's degree and Professors in Bachelor's degree, are insignificant in number, not even reaching 9% of the total and hardly 12% of tenured faculty.

Of the three "fields of knowledge" to which university geographers belong, the largest is Human Geography, which represents 39% of the total and 42% of tenured faculty and has shown a slight decline in the last few years. Here, more than three quarters of the researchers are university officials (and therefore tenured), while non-tenured faculty account for less than 25%; at the same time, the number of Full Professors is relatively high (somewhat more than 1 percent) and proportionate (1 Full Professor for every 3.3 professors).

In second place is the field of Regional Geographical Analysis, in which are found a little less than 35% of university geographers (as much in respect to the total as to staff researchers), as well as a very slight rise in numbers. Here the tenured staff represents 70% while non-tenured staff is 30%. The number of Full Professors is quite small (less than 1 percent) and maintains a proportionate level of one Full Professor for every 3.5 University Professor.

Table 2. Permanent Research faculty in Departments of Geography.

	Full Professors	University Professor	Full professors in Bachelor's degree	Professors Bachelor's degree	Total
RGA	41	143	3	11	198 (34.0%)
PhG	19	106	4	10	139 (23.8%)
HG	47	156	8	35	246 (42.2%)
Total	107 (18.4%)	405 (69.5%)	15 (2.5%)	56 (9.6%)	583

RGA: Regional Geographical Analysis; PhG: Physical Geography; HG: Human Geography.

¹ The Escuelas Universitarias are institutions that issue three-year undergraduate degrees.

The field of Physical Geography is clearly in last place, remaining stagnated for many years at a level of around 27% of the total and 24% of staff researchers. Slightly more than 60% of tenured faculty is in it, while non-tenured faculty is close to 40%. It has very few Full Professors (less than 0.5%) and a disproportionately low ratio of one Full Professors for every 5.6 of the University Professor.

As it has been shown, the non-tenured or auxiliary faculty represents 29% of university geographical researchers, and their involvement in the three "fields of knowledge" is of little relevance in Human Geography, medium relevance in Regional Geographical Analysis, and appreciably greater in Physical Geography. In addition, Associate professors (those whose principal activities lie outside the university and only function temporarily within it) are clearly predominant over Assistants (persons who are being trained in teaching and research within a university environment). Associate professors account for somewhat more than 60% of the non-tenured researchers in Spanish geography departments, while Assistants account for approximately 20%.

Table 3. Tenured research faculty at Geography Departments

	Full Professors	University Professors	Full Professors in Bachelor's	Professors in Bachelor's	Non-tenured Faculty	Total
RGA	41	143	3	11	85	283 (34.5%)
PhG	19	106	4	10	81	220 (26.8%)
HG	47	156	8	35	71	317 (38.7%)
Total	107 (13.0%)	405 (49.5%)	15 (1.8%)	56 (6.8%)	237 (28.9%)	820

In short, it can be said that in Spain universities geographical research is pursued in a relatively large number of departments and found throughout the country, even though faculty members are modest in number and unevenly distributed. The teams or groups in which they do their work are composed of persons whose principal activity is teaching and who for the most part are tenured faculty. Working with them are professors in training, either associates or contractors, who are not tenured and are fewer in number.

From an academic point of view, the 820 geographers who labor in university geography departments are divided into three "fields of knowledge" ("areas of specialization") that are distinct administratively and have their own composition, structure, and set of activities. The researchers involved in Human Geography are the most numerous, and have the greatest proportion of tenured faculty and the most balanced structure, even though they show a slight downward trend. Those involved in Regional Geographical Analysis are slightly less numerous, have a normal proportion of faculty members and a balanced structure, as well as a tendency towards growth. Those in Physical Geography, for their part, are much fewer and poorly balanced, while their total remains stagnant.

With regard to non-tenured researcher, there is every indication that Spanish university geography departments in the last few years have put an emphasis on incorporating non-university professionals as new researchers rather than training their own Associate Professors.

2. DOCTORAL THESES.

According to the information available from the TESEO Registry and published research records (as well as answers to surveys given by the Association of Spanish Geographers AGE), over the 2000-2002 period there have been 130 doctoral theses presented at Spanish university geography departments (51 in 2000, 38 in 2001, and 41 in 2002). This was a slight decrease with respect to the second half of the 1990s, in which the average surpassed 50 per year. This would mean that in each department there was an average of approximately one doctoral thesis per year, although in reality there are no more than thirty centers where at any time during the three-year period where even one of these research projects has been successfully defended. It is also notable that almost half of these have been undertaken and presented in the 12 departments having the most numerous tenured faculty members.

Table 4. Distribution of doctoral theses presented at Spanish geography departments during the 2000-2002 period according to the area of specialization of their Advisor.

	2000	2001	2002	Total
RGA	21	13	19	53 (40.8%)
PhG	7	9	6	22 (16.9%)
HG	23	16	16	55 (42.3%)
Total	51	38	41	130

Using the advisor's area of specialization as a criterion, thesis on Human Geography (42%) are slightly more in the majority than Regional Geographical Analysis (41%), leaving behind Physical Geography (17%). Nevertheless, if a thesis's subject matter is taken into consideration, as revealed in its title, it is possible to see other significant facts. The first and foremost of these (considered independently of the chairman's area of specialization) is Human Geography at 64% of the thesis presented; most notable among these are Social and Cultural Geography, Historical Geography, Urban Geography and Rural Geography. The second (also considered independently from the department chairman's specialization) consists of regional geographical studies done from a global or integrated perspective, while it is socio-economic area analysis and hazard analysis that are most notable. The third consists of doctoral thesis on specialized topics of Physical Geography, which are done almost exclusively by researchers specializing in this area and representing 12% of the total, and divided almost equally between Geomorphology, Climatology, and Bio-geography. Thesis on theoretical or methodological topics, however, are scarcely represented.

Table 5. Distribution of doctoral theses, according to the subject treated, in Spanish Geography departments 2000-2002.

	2000	2001	2002	Total
Physical Geography	5	6	5	16 (12.3%)
Human Geography	29	25	29	83 (63.8%)
Regional, complex or global studies	16	6	7	29 (22.3%)
Conceptual, methodological, & didactic subjects	1	1	0	2 (1.6%)
TOTAL	51	38	41	130

The analysis of the thesis titles, and research into the authors' countries of origin, allow us to appreciate the significant number of foreign doctorates. Throughout the three-year period 2000-2002, 18% of the papers presented to Geography departments for the degree of doctor were by non-Spaniards and deal with issues relating to their countries of origin (most notably Brazil, Cuba, Mexico, and Argentina); in fact, in 2000 these theses by foreign authors on foreign subjects surpassed 21% of the total.

In short, the pace at which new doctorates are admitted to Geography's circle has dropped in the last few years; they are now clearly fewer than fifty per year. This implies a median output of 0.91 theses per department and 0.08 theses for each tenured researcher able to direct advise them. This low number comes despite the incorporation of foreign students into doctoral programs, although it is not very different from recent past and is no doubt due to the "freezing" of jobs for tenured geographical researchers in Geography departments and the drop in the number of students registering from them. New rules applying to three-year degree programs may apply, in which the presentation of "Research Works" (whose number, department affiliation, and subject have not been reliably documented) of lesser breadth than a doctoral thesis allows the granting of an Advanced Studies Degree that certifies some training in research.

The distribution by area of specialization of the thesis presented goes along the general lines already described for research faculty; although an output somewhat higher than the mean is to be noted for Regional Geographical Analysis and slightly lower for Physical Geography. This coincidence is not noted, nevertheless, upon analyzing the theses according to their subject matter; this is an indication that, despite the strict administrative separation of Physical Geography, Human Geography, and Regional Geographical Analysis, there are no clear boundaries between their areas of interest – especially between the last two of this group. It seems clear that a significant number of the theses directed by Regional Geographical researchers deal with issues traditionally included in the field of Human Geography, while to a lesser degree, Human Geographers and even Physical Geographers advise on theses dealing with global analysis of territories.

3. FUNDED RESEARCH PROJECTS.

Research activities conducted by Spanish geography departments is supported substantially by public funding from outside the respective universities by means of competitive grants for research projects or the signing of research agreements and contracts. Since the end of the last decade, there is on average for each year approximately 250 of these projects, agreements, and contracts, whose directors (head researchers) are drawn from Regional Geographical Analysis, Physical Geography, and Human Geography. The total amount of funding involved is difficult to establish, but may be between 1.8 million and 2 million euros.

In the year 2001², there were 248 research projects or contracts currently undertaken by university geographers, 39% of which were funded by the regions and autonomous communities of Spain, while 31% received funding from national government

² 2001 was chosen as a representative sample because of the complete information provided by the Inter-ministerial Commission on Science and Technology, and by research reports from a number of universities.

sources, e.g. Inter-ministerial Commissions or General Offices of Ministries. The number of projects financed by international organizations (most notably, EU Research Funds) did not reach even 10%, although 20% of these received funding from the province-level (e.g. Councils or public foundations) or municipal level (e.g. Municipalities or communities).

Table 6. Distribution of research projects according to funding sources (2001)

European and International	24 (9.7%)
National government	78 (31.5%)
Autonomous Community	97 (39.1%)
Provincial	13 (5.2%)
Local	36 (14.5%)
TOTAL	248

The view described above indicates a change from the situation observed just before, in which the number of projects funded by Europe and national sources has dropped, while projects funded by regional, provincial, or local sources are now superior in number. While in 1999 the European and national projects represented 52% of the total projects, and 48% were funded by smaller jurisdictions, in 2001 the latter group had reached 59% while the former has decreased to 41%. This growing predominance of funding from the areas and jurisdictions immediately surrounding the Geography departments (together with the modest amounts afforded) may explain that 70% of the research projects and contracts have regional or sub-regional goals or frames of reference that pertain to those very same Autonomous Communities. These facts may account for the relatively little involvement of university geographers in researching areas outside of Spain. In the year referenced, only 10.6% of the current projects dealt expressly with areas outside of Spain.

Table 7. Distribution of research projects according to study area (2001).

No reference to territory	15 (6.1%)
Outside Spain	26 (10.5%)
Spanish territory on national or multi-regional scale	32 (12.9%)
Spanish territory on regional scale	61 (24.6%)
Spanish territory on sub-regional scale	114 (45.9%)
TOTAL	248

Despite the unequal volume of their components, the three area of specialization sub-dividing Geography administratively within the university have a very similar number of projects, agreements, and contracts. Of the 248 found for 2001, 85 (34.3%) were directed by researchers in Physical Geography, 82 (33.0%) by researchers in Regional Geographical Analysis, and 81 (32.7%) from researchers in Human Geography. This would indicate a greater capacity or facility in obtaining these kinds of funding on the part of Physical Geographers who, though in the minority, captured 0.61 projects per tenured researcher. The more numerous Regional Geographers obtained 0.41 projects

per researcher, while Human Geographer garnered 0.33 projects per tenured researcher. However, this balance and relative pre-eminence on the part of Physical Geography cannot be viewed in the same way if, instead of noting the project directors' area of specialization, the subject matter of the projects undertaken in the departments is analyzed. Considering this, Human Geography takes first place at 38% of the subjects covered, while only 23% of the funded projects deal with Physical Geography. This is because, while the components of Human Geography are clearly if not exclusively focused on its subject area, Regional Geographical Analysis and Physical Geography diversify their subjects of study for those who succeed in obtaining outside funding by including an important part of their projects to issues not properly belonging to their areas of study. It is significant, therefore, that a third of the projects directed by professors from Regional Geographical Analysis deal with Human Geography issues and that 34% directed by Physical Geographers deal with Regional Analysis. In the same way, not quite 20% of the projects referred to are directed by Human Geography faculty members.

Table 8. Distribution of research projects according to the director's area of specialization and subject matter.

	RGA	PhG	HG	Total
Specialized subjects in Physical Geography	8 (9.9%)	46 (54.1%)	3 (3.6%)	57 (23.0%)
Specialized subjects in Human Geography	27 (33.3%)	10 (11.8%)	57 (69.6%)	94 (37.9%)
Complex Regional studies	42 (51.8%)	29 (34.1%)	16 (19.5%)	87 (35.1%)
Conceptual, methodological, & didactic matters	4 (5.0%)	0 (0.0%)	6 (7.3%)	10 (4.0%)
Total	81	85	82	248

A notable and growing "permeability" is to be noted in the subject boundaries between Geography's "area of specialization", as well as a greater consolidation or stability on the part of Human Geography and a growing interest on the part of everyone (at least formally) in the studies presented from complex regional or integrated perspectives. This growing incidence of Regional Analysis is no doubt favored by the kinds of the public institutions that are now the principal funding sources. This may explain why Socio-economic territorial analysis, Analysis and territorial analysis proposals, and Hazard Analysis are among the most numerous types of research projects and contracts, and are at or above the level of studies on Geomorphology, Social and Cultural Geography, Urban Geography, or Geography of Services and Tourism. These effective subject matters were notable in 2001 for the number of research projects dedicated to them, but did not do so markedly in circumstances in which the scattering and variability of points of interest are the most significant characteristic; this can be seen in Table 9.

Table 9. **Distribution of research projects according to effective subject matter (2001)**

Physical Geography matters	Total
Geomorphology	25 (10.1%)
Climatology	15 (6.0%)
Hydrology	6 (2.4%)
Bio-geography	11 (4.5%)
Total	57 (23.0%)

Human Geography matters	Total
Population Geography	11 (4.5%)
Rural Geography	7 (2.8%)
Urban Geography	15 (6.0%)
Industrial Geography	9 (3.6%)
Geography of Commerce, Services and Tourism	13 (5.3%)
Geography of Transport	10 (4.0%)
Socio-Cultural Geography	19 (7.7%)
Political Geography	2 (0.8%)
Historical Geography	8 (3.2%)
Total	94 (37.9%)

Complex or global geographical studies	Total
Integrated landscape studies	8 (3.2%)
Environmental studies	7 (2.8%)
Risk analysis	16 (6.5%)
Territorial socio-economic analysis	32 (12.9%)
Analysis and proposals for Territorial Management	24 (9.7%)
Total	87 (35.1%)

Conceptual, methodological, and didactic subjects	Total
History of Geographical Thought	0 (0.0%)
Analytical methods and techniques	10 (4.0%)
Teaching Geography	0 (0.0%)
Total	10 (4.0%)

TOTAL	248
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4. PUBLICATIONS.

Analysis undertaken by Spanish university geographers of scientific publications presents some rather greater difficulties than those already mentioned, since the sources of information referring to it are not only disperse and less accessible, but also suffer

from an appreciable lack of homogeneity. It was because of this, and also because not all of the Research Reports from the geography departments were available (even though there is a major and representative sample), that the choice was made to analyze the amount, origin, medium, and content of the research works published through three different, but complimentary channels.

In the first place, based on Research Reports and the Association of Spanish Geographers' (AGE) survey of geography departments, the various kinds of publications reporting on research were analyzed. Furthermore, there was a systematic review of the principal Spanish journals of geographical and miscellaneous subjects issued during 2000, 2001, and 2002 (Table 1) with the purpose of establishing which subjects are of the most interest and which are the lines of research followed by Spanish geographers. Finally, with the same purpose, the subject matter of published books and chapters was analyzed by reviewing the lists from Research reports for 2002 from geography departments that could be accessed.

4.1. Types of Publications.

The analysis of the information from the Research Reports from the universities and the answers to the AGE's survey of the departments allows establishing at about 1,350 the average annual number of publications that record the research by geographers at Spanish universities. This means an average output of 30 publications for each department per year, thereby equaling 01.6 publications for each researcher per year. Of the total number of works published (slightly lower than in 1999), 9.5% were books, 32.2% were chapters or parts of books, 33.2% were journal articles, and 25.1% were papers or communiqués included in reports out of scientific congresses and meetings. From this point of view, there is no great difference from those cited for 1999, although there was a certain reduction in the number of books and articles coupled by an increased in the number of chapters in books and presentations to congresses³.

From the point of view of the university affiliation of authors, 32.8% of the publications produced deal with Regional Geographical Analysis, 27.8% deal with Physical Geography, while 39.4% deal with Human Geography; there has been a noticeable lessening of the importance of the third, while the remaining two have shown a relative increase.

With reference to the articles, the most popular vehicle for communicating research results, 80.6% were published in Spanish journals while the remaining 19.4% appeared in foreign journals. There has been a notable increase in the latter, which at the end of the last decade was 14.6%. This increased involvement in international forums can be seen more clearly in the reports to congresses: the percentage of papers presented at multi-national meetings or outside of Spain rose in just a few years from 14.8% to 30.3%.

³ Here are analyzed the detailed and non-detailed reports offered by geography departments on their websites, completed questionnaires, and reports received directly from them. Their data, for the years 2000, 2001, and 2002, correspond to an average year in 27 Spanish universities.

Table 10. **Typology and percentage distribution of university geographer's publications in 1999 and 2002.**

Type of Publication	1999 %	2002 %
Books	12.2	9.5
Book chapters	31.4	32.2
Journal articles	40.9	33.2
Papers and reports	15.8	25.1
Area of specialization		
Regional Geographical Analysis	29.7	32.8
Physical Geography	23.2	27.8
Human Geography	47.1	39.4
Journal articles		
From the total articles	40.9	33.2
In Spanish journals	85.4	80.6
In foreign journals	70.4	62.9
Reports		
To international congresses	14.8	30.3
To national congresses	70.4	62.9
Other congresses	14.8	6.8

Nevertheless, in 1999 as in the present, a substantial portion of the publications by Spanish geographers consists of articles published in Spanish journals, especially geographic journals or multi-disciplinary journals that include Geography. Therefore journals for 2000, 2001, and 2002 can be considered as significant evidence for detailed analysis of the works by geography academics ⁴. Despite reservations due to this limit on the precedence of data, some conclusions can be made about the results of research activity.

⁴ The great number of publications made a larger sample untenable. The review over the last three years of four journals of quality (Ciudad y Territorio, Cuaternario y Geomorfología, Pirineos, and Revista de Estudios Agrosociales) underscored the complexity of the task. Only 17 articles written by faculty members of Spanish departments of geography were found in the more than 250 works published during the period in question. Therefore, their possible contributions would be quite modest to the computation.

Table 11. Examples of Spanish journals used for analyzing authorship and subject matter (2000, 2001, 2002)

Spanish geographic journals	Physical Geography	Human Geography	Complex Geograph. studies	Intra-disciplinary studies	Total articles	%of the total articles
Anales de Geografía (Complutense University of Madrid)	4	45	9	11	69	13.6
Boletín de la Real Sociedad Geográfica (Madrid)	1	13	6	4	24	4.7
Baética: Estudios de Arte, Geografía e Historia (University of Málaga)	0	7	7	2	16	3.1
Boletín de la Asociación de Geógrafos Españoles (AGE-Madrid)	3	16	22	7	48	9.4
Cuadernos de Geografía (University of Granada)	1	10	8	1	20	3.9
Cuadernos de Geografía (University of Valencia)	8	14	3	8	33	6.5
Cuadernos de Investigación (University of La Rioja)	6	0	0	0	6	1.2
Documents d'Analisi Geogràfica (Autonomous University of Barcelona)	1	3	2	10	16	3.1
Ería: Revista de Geografía (University of Oviedo)	9	25	11	2	47	9.2
Estudios Geográficos (Institute for Economics and Geography –CSIC)	3	33	7	12	55	10.8
Geocrítica: Scripta Nova (University of Barcelona)	0	9	2	5	16	3.1
Geographicalia (University of Zaragoza)	3	3	3	3	12	2.4
Investigaciones Geográficas (University of Alicante)	11	18	15	5	49	9.6
Lurralde: Investigación y Espacio (A. de Urdaneta-Basque Geographical Inst.)	4	6	5	2	17	3.3
Papeles de Geografía (Univ. of Murcia)	6	21	5	9	41	8.1
Polígonos (University of León)	1	4	1	0	6	1.2
Revista de Geografía (Univ. of Barcelona)	1	1	1	0	3	0.6
Revista Estudios Andaluces (Universidad de Sevilla)	0	5	1	1	7	1.4
Treballs de la Societat Catalana de Geografia (Institute of Catalan Studies-Barcelona)	10	7	3	4	24	4.7
TOTAL	72	240	111	86	509	100.0

4.2. *Articles in Geographical and related multi-disciplinary journals.*

In the sample studied here, 509 articles were identified in which Spanish professors of geography are either authors or co-authors: excluding only those signed by non-university researchers whose work will be reviewed in another monograph. On one hand, the authorship of each one of articles has been analyzed in order to evaluate the level of cooperation and teamwork on the part of university geographers. On the other hand, their contents and subject matter were reviewed to determine the degree of level of contributions made to science in the three distinct area of specialization within geographical studies in Spain and the real focus of interest in each one of these.

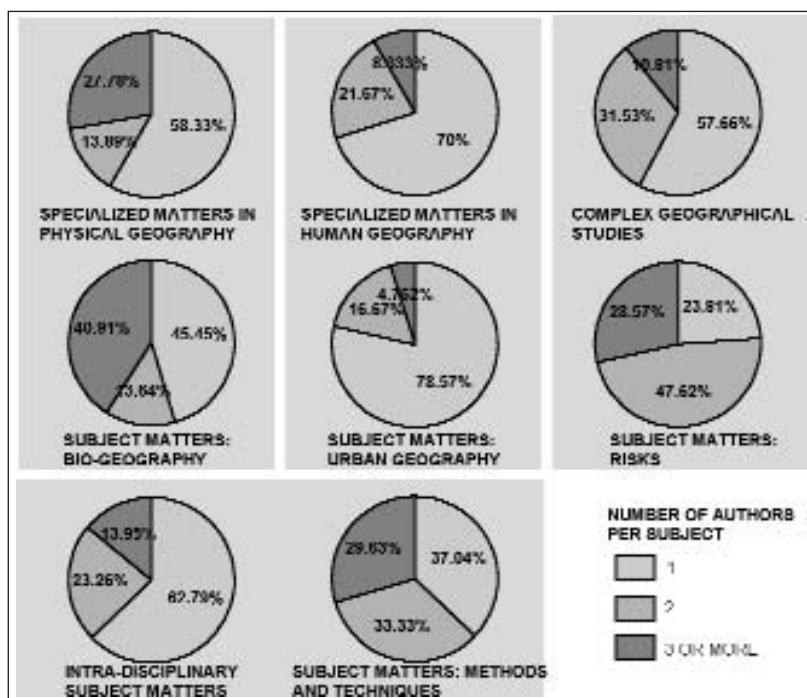
Certainly, due to the strict criteria established by the Ministry of Education for evaluating the scientific endeavors of Spanish university faculty, in general those articles signed by a single author reach 64% of the total. Those signed by two authors amount to less than a third of those considered (23%), while only 13% have three or more authors. In addition, when it exists, the collaboration on these sorts of publications is usually found among members of the same department or, in any event, from closely related departments. Researchers from other organizations or private enterprises, who were geographers for the most part, signed only 13 articles. This apparent isolation from scientific work and the dissemination of results may be explained by how easy it is to publish in journals that are controlled to a certain degree by the departments of geography. This may serve to slant the results of analysis in that area, since greater efforts at coordination and better teamwork seem to be found in other sorts of publications, e.g. book chapters or reports to congresses).

In any event, the differentiation produced in authorship according to the subject matter of the work (Table 1) is quite interesting. A third of the articles on specialized matters of Physical Geography are written by two or more authors; in the case of Biogeography, articles by three or more authors exceed 40% of the total. In contrast, it is in articles on Human Geography (47.2% of the total) where sole authors prevail, which exceed 80% in subjects in subjects relating to Geography of Transport, Historical Geography, or Political Geography, and reach 70% in Urban, Industrial, and Socio-Cultural Geography.

The group of articles classified as "complex" or "global" in focus show a profile that is very similar to that described for Physical Geography, although it is notable for the great number of works written by two authors: 32% (only 13% in Physical Geography), as compared to the 11% in which three or more authors were involved (28% in Physical Geography). The profile shown by this set is quite suggestive for the attention it pays to risks, an interest that is growing among Spanish geographers. In this case, its fundamentally integrative contents determine the joint participation of specialists from the various branches of geography, and account for 75% of the articles that have two or more authors.

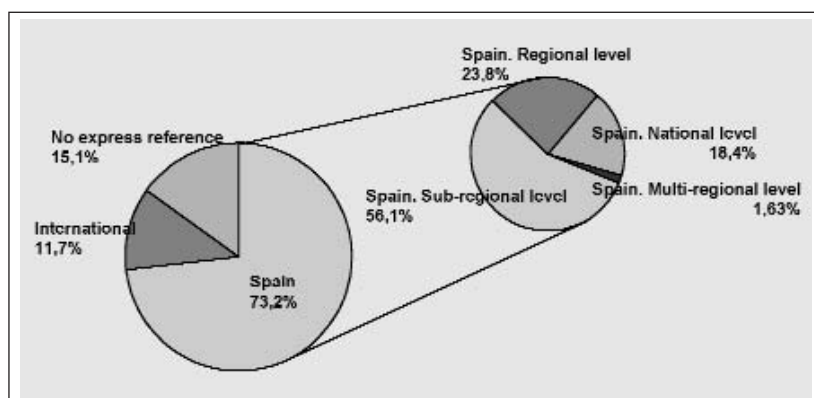
In the intra-disciplinary articles whose subject matter traverses the entire discipline of Geography (didactics, theory and method, history of thought, and gender), the view is more complex. Works by sole authors are dominant, while numerous are those on geographical thought and didactics, 62% and 85% respectively, which for the most part are done by specialists in Human Geography. In contrast, methods and analytical techniques and gender are presented as collaborative efforts in 63% and 46% of the cases, respectively.

Figure 1. Authorship of articles published in Spanish geographical journals.



In dealing with Geography, it seems logical that the first factor that should be posed in an accounting of scientific output is the dominant local (territorial) perspective. Therefore, it should be pointed out that of the entirety of the articles examined (Figure 2), the majority deal with the territory of Spain. Almost two-thirds of the works (72.5%) deal with areas within Spain while 56% are on the sub-regional, regional, or local scale. This makes clear, once again, that in Geography in Spanish universities the focus of research remains those areas actually surrounding the geography departments in question.

Figure 2. Classification of articles analyzed according to the geographical area referenced (2000-2002)

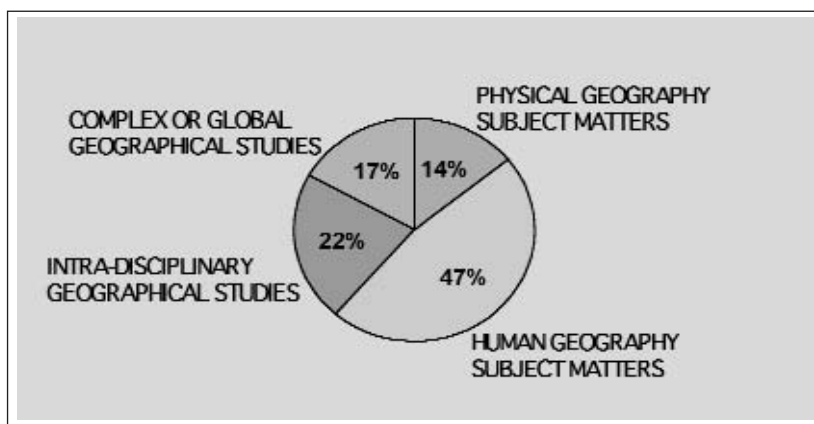


The maintenance of this strong connection between research activities to local territory must also be considered as a collateral result of the official policy on the part of the Autonomous Communities of supporting research, which are the principal source of funds for the geography departments, and that are limited to supporting projects dealing with the respective regions. The scarce economic resources and means still limit research by the geography departments at Spain's public universities, which are now hard-pressed due to recent national budget policies that make taking on research in more distant areas quite difficult.

Only 11.6% of the articles studied have areas outside of Spain as their focus, or have an international scale. Among these are issues of great current interest, such as regional imbalances in Europe which are incorporated into socio-economic studies that together reach 13.6% of the total international studies. Articles referring to the transformation of rural European life are also significant, especially those dealing with the East; thanks to them Rural Geography as a subject matter accounted for 13% of the articles with an international perspective. Articles on climate change permitted Climate to account for 11% of articles having a broad scope of reference. For their part, the papers published by the journals analyzed (which have no expressed territorial framework) focus mostly, of course, on the history of geographical thought or generally with research methodology and techniques.

With reference to the contents and the subject matter presented, the conclusions arrived at in the current analysis do not greatly differ from the results of the evaluation undertaken in 1999 (Table 2). Likewise, the papers on specific matters of Human Geography, at 47.2% of the total, are clearly in the majority, while the areas of specialization noted for the authors indicate that 57% come from Human Geography while 37% come from Regional Geographical Analysis. (Figure 3).

Figure 3. Classification by large subject groups of the articles published in Spanish geographical journals (2000-2002)



Along the same lines, the papers on Physical Geography remain in the minority overall in Spanish geography: they account for only 14% of the total articles published, a

number very similar to the 13.64% found for 1999. In addition, as it had happened then, almost all of them (93%) are written by physical geographers.

The third large field of research, referred to as complex, consists mostly of integrative works, many of which are characterized by a trend towards practical applications. This field includes a group of articles representing 22% of the total, which is close to the figure (27%) recorded for 1999. The result of its integrative contents is the participation of professors balanced between the three areas of specialization: 35% of the authors come from Regional Geographical Analysis and Human Geography while 26% come from Physical Geography. Furthermore, this field of research also claims the greatest percentage of articles signed by more than one author.

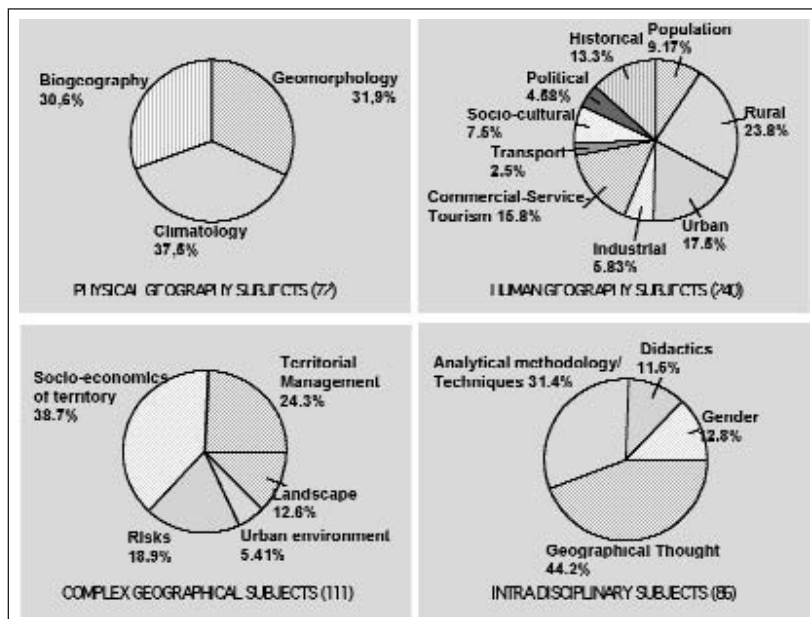
Intra-disciplinary subjects (e.g. thought, methodology and techniques, didactics, etc.) represent, for their part, a small percentage of the scientific output published in Spanish geographical journals. They now account for almost 17% of the papers during the period here considered, exceeding the figure recorded for 1999 (10%). This general increase echoes the growing interest in geographical thought, and research methodology and techniques, but it also comes about because of the incorporation of the geography of gender as an attractive topic for research. However, while the teaching (*didáctica*) of Geography had been a traditional focus for university professors providing training at the Teaching Schools and Education Faculties (employment by Secondary schools was a principal occupation of most geographers until about ten years ago), it appears to have stagnated. Geographers involved in Regional Geographical Analysis or Human Geography are, exclusively, the ones who continue to have a slight interest in it, since no Physical Geographers were found in this area.

A break down of the large thematic sets described in areas and subject matters that are more specific allows an appreciation of other significant areas as well as some reflection on the relationship between the contents (i.e. Spanish geography's traditional fields of interest) and the more novel issues now incorporated within the geographers' purview. The highest percentages among the total number of articles analyzed for subject matters such as Rural Geography (11.2%), Urban Geography (8.3%), Socio-economic territorial analysis (8.4%), and for History of geographical thought (7.5%), where research is fundamentally consolidated. It can be said that there is a growing number of works on issues that interest the international community of geographers, such as risks (4%), landscape (almost 3%), territorial management (slightly more than 5%), gender (2.2%), while political geography has remained steady over the last decade or so.

Nevertheless, a complete analysis of the specific contents and subject matters of the articles (Figure 4) leads us to some complementary determinations that are of interest.

Very notable within the field of Physical Geography is the balance that is struck between its three principal branches: Geomorphology, Biogeography, and Climatology. Among the previously mentioned fields, articles are distributed almost equally and reach almost 5% of the total in each case. On the contrary, in the field of Human Geography (the largest, as noted repeatedly) the internal differentiation is greater, while three subject matters exceed 5% of the articles examined, and 15% within the field. These are Rural Geography, Geography of Commerce, Service, and Tourism, as well as Urban Geography. The other six differentiated subject areas are clearly smaller, while Historical Geography holds the middle at 13% and Population Geography is at 9%.

Figure 4. Subject matters of the articles published in Spanish geographical journals (2000-2002)



A situation very similar to the specific topics in Human Geography is found in complex or global geographical studies. Socio-economic analyses and the study of Territory Management are of interest to the geography community in the universities, with a volume of articles for each of approximately 25 % of the total. The remaining subject matters, Risks, and Landscape, obtained lower percentages, while Urban Environment figured in only 5.4% of the papers published. Finally, in the area of intra-disciplinary studies, Geographical Thought, at 44.2% of the total articles in this group, is a leading subject matter.

4.2. Books and chapters of books.

As with journal articles, books and chapters of books published by geography research faculty presented by sole authors are in the majority (64.8%). However, there are differences that arise according to subject content. In Human Geography, sole individuals (75%) write most books and chapters, as is the case with complex or global studies (66.7%), and to a lesser extent in methodology and didactics (52%). However, topics pertaining to Physical Geography are written and published mostly by more than one author. In Physical Geography, 60.8% of the books and chapters have two or more authors, while those having three or more amounted to 33.3%, standing out among the rest of the subject groups that did not exceed approximately 10%. In addition, titles resulting from cooperative efforts are especially frequent in Geomorphology (65%), Climatology (62.5%), Biogeography (58.8%), and in those areas given to contrasting

and integrating various points of view, such as Landscape (50%), Analytical methods and techniques (42.9%), and Territorial Management (42.9%).

With respect to the spatial surroundings to which they refer, most of the books and chapters refer to Spain (70%), and of these studies 75.7% are at the regional or sub-regional scale. This clear predominance of the more detailed scales is even more obvious in non-periodical publications in Physical Geography (68.6%), especially Geomorphology (80%), Hydrology (66%), Biogeography (64.7%), as well as in Socio-economic Territorial studies (74%), and Landscape analysis (100%). Considering this, it is also notable that due to the greater number of books resulting from research into conceptual and methodological matters, almost a fourth of the publications in the form of books or chapters has no expressed territorial reference (23.7%) – slightly higher than the percentage calculated for journal articles.

Table 12. Classification of articles published in Spanish journals by Geography faculty members of the universities according to subject matter and authors' area of specialization. (2000, 2001, and 2002)

Subject Matter	Regional Geographical Analysis			Physical Geography			Human Geography			Authors		Articles	
	1	2	3	1	2	3	1	2	3	4	5	4	5
Geomorphology	0	0.0	0.0	40	18.3	100.0	0	0.0	0.0	40	5.1	23	4.5
Climatology	4	1.7	9.1	40	18.3	90.9	0	0.0	0.0	44	5.6	27	5.3
Biogeography	5	2.1	10.4	43	19.7	89.6	0	0.0	0.0	48	6.2	22	4.3
Specialized in Physical Geography Total	9	3.7	6.8	123	56.4	93.2	0	0.0	0.0	132	16.9	72	14.1
Population	7	2.9	21.2	1	0.5	3.0	25	7.8	75.8	33	4.2	22	4.3
Rural	50	20.7	58.1	5	2.3	5.8	24	7.5	27.9	79	10.1	57	11.2
Urban	17	7.1	30.4	1	0.5	1.8	38	11.9	67.9	56	7.2	42	8.3
Industrial	5	2.1	25.0	1	0.5	5.0	14	4.4	70.0	20	2.6	14	2.8
Commerce-Service-Tourism	25	10.4	41.7	0	0.0	0.0	35	10.9	58.3	60	7.7	38	7.5
Transport	3	1.2	37.5	0	0.0	0.0	5	1.6	62.5	8	1.0	6	1.2
Socio-Cultural	5	2.1	20.0	0	0.0	0.0	20	6.3	80.0	25	3.2	18	3.5
Political	3	1.2	25.0	1	0.5	8.3	8	2.5	66.7	12	1.5	11	2.2
Historical	12	5.0	29.3	4	1.8	9.8	25	7.8	61.0	41	5.3	32	6.3
Specialized in Human Geography Total	127	52.7	37.2	13	6.0	3.8	194	60.6	56.9	334	42.9	240	47.2
Landscape	8	3.3	44.4	5	2.3	27.8	5	1.6	27.8	18	2.3	14	2.8
Urban environment	1	0.4	11.1	4	1.8	44.4	4	1.3	44.4	9	1.2	6	1.2
Risks	10	4.1	21.3	27	12.4	57.4	10	3.1	21.3	47	6.0	21	4.1
Socio-economics of Territory	27	11.2	41.5	2	0.9	3.1	32	10.0	49.2	61	7.8	43	8.4
Territorial Management	17	7.1	45.9	8	3.7	21.6	12	3.8	32.4	37	4.7	27	5.3
Complex or global geographical studies.													
Total 63	26.1	35.8	46	21.1	26.1	63	19.7	35.8	172	22.1	111	21.8	
Geographical Thought	13	5.4	27.1	5	2.3	10.4	30	9.4	62.5	48	6.2	38	7.5
Analytical methodology and techniques	19	7.9	29.2	30	13.8	46.2	14	4.4	21.5	63	8.1	27	5.3
Didactics	2	0.8	14.3	0	0.0	0.0	12	3.8	85.7	14	1.8	10	2.0
Gender	8	3.3	50.0	1	0.5	6.3	7	2.2	43.8	16	2.1	11	2.2
Intra-disciplinary subject matters.													
Total 42	17.4	29.4	36	16.5	25.2	63	19.7	44.1	141	18.1	86	16.9	
TOTAL SUBJECT MATTERS	241	100	30.4	218	100	27.5	320	100	40.4	779	100	509	100

1=Authors; 2=% authors with respect to each area of specialization ; 3=% authors with respect to total authors; 4= Total; 5= % with respect to total

Table 13. Distribution of books and chapters according to the specialization of the leading author and subject matter.

	RGA	PhG	HG	Total
Physical Geography subject matters	1(2%)	49(96%)	1 (2%)	51 (18,9%)
Human Geography subject matters	52(36,4%)	4(2,8%)	87(60,8%)	143 (53%)
Complex regional studies	20(39,2%)	8(15,7%)	23(45,1%)	51 (18,9%)
Conceptualization, methodology, & didactics	8 (32%)	2 (8%)	15(60%)	25 (9,2%)
Total	80	64	126	270

RGA=Regional Geographical Analysis; PhG=Physical Geography; HG=Human Geography.

The distribution of the subject matters of these publications reflects, for its part, a definite predominance of Human Geography (53%), which almost trebles the percentages for Physical Geography (18.9%) and complex and global geographical studies (18.9%). Nevertheless, by breaking down these large sets, one can see a notable interest in Rural Geography (11.9%), which is favored by its practical applications to local development proposals and by socio-economic territorial studies (10%). The second group of topics found in books and chapters consists of traditional subject matters from the various branches of geography; publications on these are approximately 7% each. Therefore, in this group are Geomorphology, Population Studies, Urban Geography, Industrial Geography, Tourism-Commerce-Services, as well as Historical Geography.

Finally, the distinct linkage between the subject matter of publications and the affiliation of their authors to area of specialization should be pointed out. While physical geographers write 96% of the books and chapters dealing with Physical Geography, there is a greater variety among those writing on Human Geography – more than a third of which are undertaken by researchers from Regional Geographical Analysis. When these results are broken down, there is also a great deal of interest in population studies (89.5%) on the part of Human Geography professors, while those from Regional Geographical Analysis prefer to focus their attention on development of local rural environments.

SPANISH GEOGRAPHIC JOURNALS CHANGES AND ADAPTATIONS IN EDITORIAL QUALITY CONTROLS

JORGE OLCINA CANTOS
ADELAIDA ROMÁN ROMÁN

1. THE IMPORTANCE OF PUBLISHING SCIENTIFIC JOURNALS: GEOGRAPHIC JOURNALS IN SPAIN.

The conduct of scientific research relies on the publication of results of studies in monographs and articles as a means of spreading ideas and opinions to the advancement of science. The Argentine Institute on Standardization (IRAM) provides the following definition of a scientific journal in accordance with the International Standardization Organization (ISO) standard 3927 of 1975 and the International Standard Serial Number (ISSN) "a serial publication of any sort of binding generally bearing a numerical or chronological designation and intended, at least in principle, to continue indefinitely. This definition excludes those works that are published in a pre-determined number of editions". Periodical publications adhere to the so-called ISSN number applicable to all serial publications, regardless of the type of binding. Among others, these serial publications include journals of the various different branches of science. The publication of scientific journals is one of the indicators that permit the evaluation of the level of development and amount of activity within a science. The quality of a journal depends upon the attention paid to formalities as well the publication of research results and their later impact on the interested parties, and is after all a symptom of the maturity of a science. These factors as usually related to the level of development within a country.

With these in mind, it can be said that Geography in Spain is in very good health. There is ample panoply of geographic periodicals that for the most part maintains both continuity and quality. There is in our country an impressive tradition of geographic publications going back to the second half of the nineteenth century during the golden age of geographic societies. This continues today with the increase in the number of titles published and themes covered, reflecting developments in geographic theory including themes, methods, and techniques. One of the Spanish geographic journals publis-

hed in those years is the "Bulletin of the Spanish Royal Geographic Society" (Boletín de la Real Sociedad Geografica), which is one of the oldest scientific journals in the world. Even so, it would not be until the second half of the twentieth century, with the consolidation of the science of geography in the universities, that geographic journals such as "Geographic Research" (Estudios Geograficos) and "Geographica" as the means of publishing Spanish research results.

There has been a recent and profound renewal among these publications to adhere to bibliographic standards that have been used from the beginning to evaluate research results. This has meant improvements in quality overall and in the content of the various Spanish geographic journals that are now at par with renowned foreign journals.

Geography in Spain has undertaken over the last few years the task of periodically evaluating both teaching and research. Since the beginning of the 1990s, Spanish contributions to the International Geographical Union have usually included reports on Spanish geographic journals. Article 2 of the Association of Spanish Geographers (AGE) by-laws, as modified by its General Assembly held at Oviedo (November 1, 2001), points out that one of its duties is "creation of periodical reports on Spanish geographical research".

A means of carrying out this evaluation, therefore, is to examine the state of geographic journals published in Spain. In 1992, professors Albet, García Ramón, and Nogué came up with an interesting study of Geography by analyzing the contents of Spanish academic geographical journals.¹ It should be pointed out that since this study was carried out, there has been an increase in the number of journals and articles published as well as the inclusion of new focuses and themes. It is the most outstanding evidence of Geography's tremendous dynamism in Spain over the last few years.

Spain's report to the 28th Congress of the International Geographical Union did not provide a specific analysis of Spanish geographic journals. Even so, it referenced geographic research and specifically mentioned the publication of monographs and reviews focusing on the various branches of Geography, as well as new themes and areas of interest in Spanish research.² With the objective of looking into the geographic diversity found in the bibliography of the last decade, therefore, and without specifically analyzing works published in Spanish journals, Professor Valenzuela Rubio mentioned at the 29th IGU Congress the role of geographic journals (especially in Spain) in the study and dissemination of works concerning the diversity of Spanish geography. The author points out the growing tendency in Spanish geographic journals to publish articles concerning regional, provincial, and local studies, in addition to those on the Spanish context as a whole.³

¹ Más, A., García Ramón, María D., and Nogué Font, J., "Cincuenta años de geografía en España: una aproximación a partir de las revistas universitarias de Geografía", in *La Geografía en España (1970-1990) in the Spanish report to the 27th Congress of the International Geographical Union, Washington DC, 1992, Spanish Royal Geographic Society and the Association of Spanish Geographers. BBV Foundation*. Madrid, pp. 49-57.

² López Ontiveros, A. (1995-96) "Evolución reciente de la investigación geográfica española" in the Bulletin of the Association of Spanish Geographers, Nos. 21-22 (a special issue, entitled "La nueva realidad geográfica en España", Report of the AGE to the 28th IGU Congress, The Hague, 1996), Madrid, pp.119-132.

³ Valenzuela Rubio, M. (2000) "La diversidad en la bibliografía geográfica sobre España: una aproximación al periodo 1990-2000" in *Vivir la diversidad en España*. Spanish report to the 29th IGU Congress. Association of Spanish Geographers (AGE), Spanish Royal Geographic Society, and Caja Duero, Madrid, pp. 357-372.

In "*Geografía 21*" (an interesting synthesis of AGE projects completed from 1997 to 2001), Professors Gil Olcina, Gómez Mendoza, López Ontiveros, Mateu Bellés, Morales Matos and Zoido Naranjo produced a "Report on qualitative results in geographical research" in which they pointed out the role journals play in disseminating knowledge of the discipline, but also raised a number of issues about the international awareness of Spanish geographic journals as well their current internal structure. This was accompanied by a review of geographical journals considered the "most notable" at that time and since because of their continuity and quality.⁴

The Center on Scientific Information and Documentation (CINDOC) of the Spanish Ministry of Science and Technology, thanks to the Working Group on Scientific Journals, produced a detailed report on the "Evidence of the impact of Spanish journals of Humanities". Based on surveys held in 2001 and 2002 of academics and researchers of the humanities including Geography, a model emerged that measures the impact of scientific journals. This survey is the most up-to-date evaluation of the status of Spanish journals of Humanities, incorporating a review of the quality of data published and inputs from end-users. It was thereby that a list of the most-cited journals was established by proposing a model for mixed references, both quantitative and qualitative. Some of the results of this report are contained in the present article.⁵

Scientific journals have become, therefore, an essential point of reference for disseminating and evaluating geographic research. As it has already been indicated, there have been significant changes over the last decade. There has been an increase in the number of titles, and improvement in their overall quality, which should be understood as evidence of dynamism within the discipline. Tools for management and publication have been forged, as was the evaluation of articles, e.g.: editorial boards and advisors. In general there is a sincere interest on the part of the journals to adapt to the formal quality controls required by international bibliographical indexes. Nevertheless, a great deal of ground must be covered by some Spanish journals in order to gain international recognition, and to improve the actual frequency of the journals and providing these to the Internet.

2. CURRENT SITUATION OF SPANISH GEOGRAPHIC JOURNALS

As of 2004, there are published 38 geographical science journals in Spain, which are publications released by societies, associations, research institutes, academic faculties or departments directly relating to geographic matters.

These do not publish articles on geography exclusively, since they are edited by academic faculties, research institutes, or multi-disciplinary departments, and therefore include articles on other issues such as: history, art, sociology, philosophy, etc. To these

⁴ Gil Olcina, A., Gómez Mendoza, J., López Ontiveros, A., Mateu Bellés, J., Morales Matos, G., and Zoido Naranjo, F. (2001) "*Informe sobre resultados cualitativos de la investigación en Geografía*", in *Geografía 21. AGE*, Madrid, pp. 115-135.

⁵ Román Román, A., (coordinator) (2002) "*Índices de impacto de las revistas españolas de humanidades a partir del análisis de las revistas mayor valoradas por los pares*". *A project funded by the General Directorate on Universities*. (Available at www.cindoc.csic.es)

journals should be added a number of widely-distributed non-geographic publications consulted by the Geography community. For example, "Ciudad y Territorio", "Estudios Territoriales", "Agricultura y Sociedad", "El Campo", "Revista de Estudios Agro-Sociales", "Estudios Regionales", among others. Nor should be forgotten those magazines dealing with tourism, given the importance of regional focus of the subject, that publish numerous works by geographers, e.g.: "Papers de Turisme", the Spanish edition of "Annals of Tourism Research", "Cuadernos de Turismo", as well as magazines dealing with cartography and the environment, "Observatorio medioambiental", and "Revista de Teledetección", that also publish geography articles. In the table found in Annex 1 is an account of Spanish geography journals published since the first issue of the "Bulletin of the Spanish Royal Geographic Society" until the present day. Most are still in publication.

Spanish geographic journals have undergone four phases. The first was characterized by the appearance of "classic" titles of geography such as the "Bulletin of the Spanish Royal Geographic Society", "Geographic Studies", and "Geographica". The second phase occurred during the 1960s and 1970s when the consolidation of institutes and university departments of geography brought on new journals such as: "Cuadernos de Geografía de Valencia", "Revista de Geografía de Barcelona", "Papeles de Geografía de Murcia", "Trabajos de Geografía de Mallorca", "Cuadernos Geográficos de Granada", "Geographicalia de Zaragoza", "Baetica de Málaga", "Paralelo 37 de Almería". This was the second generation of Spanish geographic journals that came in response to efforts by important personalities in Geography at the time of the rise of academic geographical studies. Fortunately, the great majority of these titles continue to exist to the present day and, despite the loss of the founders who created and consolidated them, have undergone conversions and changes in editorships.

With the coming of democracy to Spain, the creation of new universities and departments covered by the University Reform Law (1983) brought about new geographic titles and thereby the third phase of titles published in academia. In this period there appeared "Ería" of Oviedo, "Cuadernos de Investigación" of La Rioja, "Anales de Geografía" of the Complutense University of Madrid, "Documents d'Anàlisi Geogràfica" of the Autonomous University of Barcelona, "Investigaciones Geográficas" of Alicante, "Espacio, Tiempo y Forma" of UNED, "Minus" of Vigo, "Polígonos" of León, and "Série Geográfica" of Alcalá de Henares.

To this period also belongs the "Bulletin" of the Association of Spanish Geographers (Boletín de la Asociación de Geógrafos Españoles). While the Association was founded in 1975, its "Bulletin" was not officially published until 1984.

This stage produced most new journals, but it also meant the greatest of titles during the same period. After the initial start-up of some of these, few editions were published or they ceased publication altogether. This was the case of "Tarraco" of Tarragona, "Norba" of Cáceres, "Alisios" of Tenerife, and "Cuadernos Geográficos" of Cádiz.

Finally, since 1975 new titles have emerged, e.g. "Nimbus", "Territoris", and "Xeografica", and new stages of publication have begun in some capitals in the great tradition of Spanish geographical studies: "Cuadernos Geográficos" of Granada, "Revista de Geografía" of Barcelona, "Geographicalia" of Zaragoza, "Polígonos" of León, and "Didáctica Geográfica". In some cases, this renewal has meant that electronics has replaced hard-copy journals (e.g. Geocrítica website). Some of the new journals that emerged

in recent years opted to go directly to the electronics format from the beginning, e.g. "Geofocus".

From the analysis of Spanish geographic publications some factors can be highlighted:

The existence of a significant number of geographic publications can be interpreted as a sign of vitality in the geographic discipline but can also be read less favorably. There are very many journals, that in order to bring about the frequency envisioned for them, need continued research studies evaluated by outside advisors if editorial standards are to be met. This normally means that the actual frequency of these publications is diminished. It is not easy to have enough articles to put an issue to print, while having them reviewed by an editorial board and the advisor of a journal. All of this lengthens the process of editing, provokes delays in publishing the journals, and downgrades their quality.

The great number of geographic periodicals is of benefit to publication of research on the local scale. This is an indicator of the strength of research in an area. The carrying out of work on the regional, provincial, area, and local scales, constitutes the essence of research and the principal scale of works done in their first stages. It is therefore very important to have media that publish articles on these scales of works. Thus, it is interesting to observe that Spanish geographers send their local studies to journals published in their own region or in neighboring regions, and select those works synthesizing regional or large-scale studies to those journals considered to have a greater impact on Spain as a whole (e.g. *Estudios Geográficos*).

Uneven territorial distribution: To a large degree there is a concentration of journals located in outlying areas, as opposed to those in the center of Spain, i.e. the oldest being published in Madrid, "*Boletín de la Real Sociedad Geográfica*" and "*Estudios Geográficos*". The lack of any journal titles is surprising in areas such as Castile, the Guadalquivir valley, Canary Islands, the Basque region, or Extremadura, which have an ample tradition of academic geographical research. In some cases, there were short-lived attempts at publication. The publication of journals by departments themselves is sometimes supplanted by more broad-based journals published by Departments of Humanities.

Only a few Spanish geographic journals are offered in a digital format. At the moment, only seven journals are published in their entirety on the Internet: "*Geocrítica*" and its four publications, "*Investigaciones Geográficas*", the "*Boletín de la Asociación de Geógrafos Españoles (AGE)*", and "*Geofocus*". Of these, "*Investigaciones Geográficas*" and the "*Boletín*" maintain print versions and offer electronically scanned and digitalized versions in .pdf print format as well. The rest of the journals offer on their websites, at the most, an index of works published or a section dedicated to the geography departments in charge of their publication. Digital publishing is a challenge waiting in Spanish geographic journals' future if they intend to improve their international distribution. The option of placing an entire publication's contents on an Internet website is much appreciated in Latin America since it offers a free and easy means of consulting Spanish geographical research that would otherwise be impossible. The financial costs of this are very low in comparison to an international mail-out of these journals.

3. A QUALITATIVE EVALUATION OF SPANISH GEOGRAPHIC JOURNALS:

Quality analysis of scientific journals is always a risky endeavor. More and more frequently, nevertheless, scientific activities undergo evaluation processes. This makes all the more necessary the use of various reliable tools to examine quality from diverse perspectives and methodologies, so that these important evaluation processes can be based not only on self-reporting. This is especially true in social sciences and the humanities, and especially so when non-English language literature is under consideration.

Until now, the most fundamental tool used in evaluating scientific journals has been the Journal of Citation Reports (JCR). The JCR provides a series of indicators, especially "impact indexes" and "immediacy" as published by the Institute on Scientific Information (ISI) of Philadelphia, Pennsylvania (USA). Without putting into question the validity of these criteria for scientific journals of hard sciences, the lack of references to Spanish geographic journals and Spanish geography on the ISI database would argue for the need to find other methodologies for their evaluation.

Based on these suppositions, here are sketched a few criteria that provide data for evaluating Spanish geographic journals:

In the first place, data is offered on the adherence of Spanish geographic journals to quality standards set forth by Latindex. These standards cover the gamut of factors from adherence to international publishing norms, to qualitative factors such as peer reviews of articles for publication, the percentage of authors representing institutions other than the institution that publishes the journal in question, or the journal's systematic inclusion in international databases. In the table in Annex 2 are the thirty-three publishing quality standards defined by the Latindex's regional information system.⁶

In the second place, in response to a 2001-2002 survey, outstanding professors and researchers of the Spanish Council on Advanced Scientific Investigation (CSIC) were asked to evaluate Spanish geographic journals as to their scientific content. They were asked to rank the importance of these journals to the discipline according to the following categories: A) "very important", B) "important", C) "general interest", D) "marginal". After the results were tabulated, some evaluative indexes could be calculated (Iv), so that by placing the values obtained in relation to the number of votes cast for each journal, it provided a ranking for the discipline as a whole and established the following as the highest-ranked areas of knowledge: Physical Geography, Human Geography, and Regional Geographic Analysis.⁷

With the object of finally achieving a sufficiently balanced evaluation of journals, there has been proposed a model of basic objective principles that compensates for any subjective bias on the part of academics on the one hand and, on the other, assigns an exceptional weight to some of the especially important standards contemplated by

⁶ The Latindex system is the result of cooperation between fifteen Latin American countries, Spain, and Portugal. Its primary objective is to improve the quality and to promote the dissemination of scientific publications produced in Latin America. See <http://www.latindex.org/>

⁷ This research was part of a project funded by the DGU of Spain (EA2002-13), available at www.cindoc.csic.es/info/. Here are provided data only from those journals achieving an "Iv" value of at least one-third of the maximum ranking under consideration.

Latindex. This leads to some results, obtained from well-compensated formal and qualitative basic principles, which run at a lesser risk when evaluating journals according to their weight in the discipline.

3.1 Adherence to LATINDEX standards of editorial quality:

On the following table are data concerning the fulfillment of editorial quality standards on the part of Spanish geographic journals. Excluded are the following: a) out-of-print journals, b) multidisciplinary journals that may include geography but are not specifically geographic journals, c) journals in other specializations where geographers' publish a few articles, e.g. journals on agricultural-social issues, economics, tourism, etc., as has been mentioned previously (see section 2 above).

In the column that follows the titles of the journals under consideration, it can be shown whether any of them has or has not been accepted by Latindex's catalog as a function of the number of standards fulfilled. In the last column of the table is the total number of standards fulfilled by each journal, indicating which of these have fulfilled more than the requisite eight basic standards.

Given that to be in the catalog at least twenty-five of thirty-three definitive standards must be fulfilled (there being eight requisite standards, and seventeen more standards), many journals do not make the cut.

Some of the definite editorial quality standards are different from others, and for this reason it is instructive to show not only how many standards are fulfilled by each journal, but also which they do or do not fulfill. Therefore, each standard is represented at the head of the table with a numerical code. As has been already indicated, there is a report in Annex 2 on definite quality standards and their individual numerical codes that allow for an analysis of each journal's strong and weak points.

From the point of view of a joint analysis of journals of the discipline, it can be seen which percentage of them comply for the most part with commonly agreed-upon editorial standards and which least fulfill the parameters. Therefore, the way to improve editorial standards among Spanish geographic standards has opened.

It should be noted that paperless Internet magazines are still not represented in the Latindex catalog even though they may comply with many of the requisites defined for conventional magazines. Only a few months ago, the Latindex system defined editorial standards for the purely electronic journals while it is applying these standards on an experimental basis. A few months are still needed to determine the validity of these standards and decide which Internet journals can be listed in the catalog. This is the case with at least two geographic journals on the list presented (the "Geocrítica" portal, and "Geofocus" journal) and which, moreover, comply with almost all of the parameters considered in this editorial quality control system.

To be observed in Table 1 is a high percentage of current geographic journals that comply with the minimum standards for evaluation in the Latindex system, as well as an ample number that comply with practically all of them, e.g.: Investigaciones Geográficas, Boletín de la Asociación de Geógrafos Españoles, Cuadernos Geográficos de Granada, Document d'Anàlisi Geogràfica, Eria, Estudios Geográficos, Geographicalia, Lurralde, Nimbus, Papeles de Geografía, Série Geográfica, Xeografica, Zubia.

**Table 1. Degree of compliance with *Latindex*.
Quality control standards**

GEOGRAPHY JOURNALS	Cat Lat	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	T		
ANALES DE GEOGRAFIA DE LA UNIVERSIDAD COMPLUTENSE	YES	Y	Y	Y	Y	Y	N	N	N	N	Y	N	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+17	
AREA. REVISTA DE DEBATS TERRITORIALS	NO	Y	Y	Y	N	N	Y	N	N	N	Y	N	N	N	N	N	N	Y	N	N	N	Y	Y	N	N	N	8+8	
BOLETIN DE LA ASOCIACION DE GEOGRAFOS ESPAÑOLES	YES	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	8+24	
BOLETIN DE LA REAL SOCIEDAD GEOGRAFICA	NO	Y	N	Y	N	N	Y	N	Y	N	N	N	N	Y	N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	8+12	
BOLLETIN DE GEOGRAFIA APLICADA	NO	N	N	Y	Y	N	Y	N	Y	Y	N	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	8+16	
CUADERNOS DE INVESTIGACION GEOGRAFICA	YES	Y	Y	Y	Y	N	Y	Y	Y	N	Y	N	N	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	8+19	
CUADERNOS GEOGRAFICOS DE LA UNIVERSIDAD DE GRANADA	YES	Y	N	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+21	
CUADERNOS GEO-GRAFICOS UNIVERSIDAD DE VALENCIA	YES	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+19	
DOCUMENTS D'ANALISI GEOGRAFICA	YES	Y	N	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+21	
ERIA	YES	Y	Y	Y	Y	N	Y	Y	Y	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+21	
ESTUDIOS GEOGRAFICOS	YES	Y	Y	Y	N	Y	N	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+20	
GEOFOCUS ⁸	NO	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+24	
GEOGRAPHICALIA	YES	Y	N	Y	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+20	
ILERDA. CIENCIES	NO	Y	Y	Y	Y	N	N	N	Y	N	Y	N	N	N	Y	N	N	Y	Y	N	N	N	N	Y	Y	Y	Y	8+13
INVESTIGACIONES GEOGRAFICAS	YES	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+25	
LURRALDE. INVESTIGACION Y ESPACIO	YES	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+24	
NIMBUS. REV. CLIMAT, METEOR. Y PAISAJE	YES	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N	8+21	
NORBA. REVISTA DE GEOGRAFIA	NO	Y	Y	Y	N	N	N	N	Y	N	N	N	N	Y	N	N	N	Y	N	N	N	N	Y	Y	Y	Y	Y	8+11
PAPELES DE GEOGRAFIA	YES	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+22	
PARALELO 37. REVISTA DE EST. GEOGRAFICOS	NO	Y	Y	Y	Y	N	Y	N	Y	N	N	N	Y	N	N	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	8+13
PIRINEOS	YES	Y	Y	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	8+20	
POLIGONOS. REVISTA DE GEOGRAFIA	NO	Y	N	Y	Y	N	N	Y	N	Y	N	N	N	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+16	
REVISTA DE GEOGRAFIA	NO	Y	Y	Y	Y	Y	N	N	N	Y	N	N	N	N	N	N	N	Y	N	N	N	N	Y	Y	Y	Y	8+12	
REVISTA DE TELEDETECCION	YES	Y	Y	Y	N	Y	Y	Y	N	Y	N	N	N	Y	Y	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	8+17	
SCRIPTA NOVA. REV ELECT DE GEOG Y CS	⁹ NO	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+23	
SERIE GEOGRAFICA	YES	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+22	
TERRITORIS. REV. DEP. DE C. DE LA TERRA	NO	Y	N	Y	Y	N	Y	Y	Y	N	Y	N	Y	Y	Y	N	N	Y	Y	Y	Y	N	Y	Y	N	N	8+16	
TREBALLS DE LA SOCIETAT CATALANA DE GEOGRAFIA	NO	Y	N	Y	N	N	Y	N	Y	N	N	N	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	8+7	
VASCONIA. CUADERNOS DE Hª Y GEOGRAFIA	YES	Y	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+19	
XEOGRAFICA	YES	Y	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+20	
ZUBIA	YES	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	8+24	

Source: CINDOC (CSIC)

⁸ This journal is published only on the Internet, and therefore is not in the Latindex Catalog. The Latindex Regional Information System is studying quality guidelines, in addition to those already established, that will apply to Internet journals for their inclusion in its Catalog.

⁹ This journal succeeds the University of Barcelona's now out-of-print "Geocritica". Because it is on the Internet exclusively, it is not included in the Latindex catalog even though it complies with most of the quality standards.

3.2. Evaluation of geographic journals by university professors and CSIC researchers.

Following are data on the Spanish geographic journals most valued by academics in the survey sent to university geography departments, and research centers, between 2001 and 2002:

Survey results were divided into two indexes: Evaluation index "A" (Iv A), and Evaluation index "A+B" (Iv AB). In the first case, "A" was calculated by multiplying its value by the total number of votes cast and dividing the product by 100. In the second case, the sum of A+B was multiplied by the total number of votes cast for each journal and dividing the product by 100 (Iv AB). There were obtained, therefore, two evaluation indexes, one of which takes into account only "A"-ranked journals while the other considers only those ranked as good or very good.

Table 2. **Evaluation Indexes "Iv A" and "Iv AB"**

Journals	Valued %	A %	B %	A+B %	Iv A	Iv AB
BOLETIN AGE. Madrid	95.52	44.84	40.36	85.20	42.83	81.38
CUADERNOS DE GEOGRAFIA. Valencia	85.20	17.04	46.19	63.23	14.52	53.87
ERIA. Oviedo	88.34	41.70	35.43	77.13	36.84	68.14

Source: CINDOC (CSIC)

Given that the journals' ranking in each case is obviously different, both results are provided together on the same tables and offered under two different titles: "Iv A" and "Iv B", in order to indicate clearly the results obtained for each case. The tables have been edited by eliminating those journals whose indexes are at a level under one-third of the maximum achieved in each ranking considered. (see Tables 3-10).

Table 3. **Journals considered A) Very Important, or B) Important to Geography Arranged according to Evaluation Index "A"**

Surveys sent: 568; Surveys received: 223; Answer rate: 39.3%

Journals evaluated (for the discipline generally)	Iv A	Iv A+B
BOL. ASOCIACION DE GEOGRAFOS ESPAÑOLES. Madrid	42.83	81.38
ERIA. Oviedo	36.84	68.14
ANALES DE GEOGRAFIA DE LA UNIV COMPLUTENSE. Madrid	33.39	74.61
DOCUMENTS D'ANALISI GEOGRAFICA. Bellaterra, Barcelona	28.73	58.98
CIUDAD Y TERRITORIO. ESTUDIOS TERRITORIALES. Madrid	27.84	59.21
CUADERNOS DE GEOGRAFIA DE LA UNIV. VALENCIA	14.52	53.87

Source: CINDOC (CSIC)

Table 4. Geography Journals considered A) Very Important, or B) Important to Geography as a whole. Arranged according to evaluation index "A B"

Surveys sent: 568; Surveys received: 223; Answer rate: 39.3%

GEOGRAPHYC JOURNALS EVALUATED	Iv A	Iv AB
BOL. ASOCIACION DE GEOGRAFOS ESPAÑOLES. Madrid	42.83	81.38
ANALES DE GEOGRAFIA DE LA UNIV COMPLUTENSE. Madrid	33.39	74.61
ERIA. Oviedo	36.84	68.14
CIUDAD Y TERRITORIO. ESTUDIOS TERRITORIALES. Madrid	27.84	59.21
DOCUMENTS D'ANALISI GEOGRAFICA. Bellaterra, Barcelona	28.73	58.98
CUAD.DE GEOGRAFIA. UNIV. DE VALENCIA. Valencia	14.52	53.87
BOL. DE LA REAL SOCIEDAD GEOGRAFICA. Madrid	11.97	41.31
CUAD. GEOGRAFICOS DE LA UNIV. DE GRANADA. Granada	8.49	36.10

Source: CINDOC (CSIC)

Table 5. Geographic Journals considered A) Very Important, or B) Important, on "Regional Geographical Analysis". Arranged according to evaluation index "A".

Surveys sent:190; Surveys received:79; Answer rate: 41.6%

GEOGRAPHYC JOURNALS EVALUATED	Iv A	Iv AB
ESTUDIOS GEOGRAFICOS. Madrid	61.29	85.32
BOL. ASOCIACION DE GEOGRAFOS ESPAÑOLES. Madrid	57.23	80.37
ERIA. Oviedo	45.33	68.55
CIUDAD Y TERRITORIO. ESTUDIOS TERRITORIALES. Madrid	35.76	69.22
INVESTIGACIONES GEOGRAFICAS. Alicante	33.78	61.02
ANALES DE GEOGRAFIA DE LA UNIV COMPLUTENSE. Madrid	33.20	77.07
GEOCRITICA/ SCRIPTA NOVA. Barcelona	31.85	58.02
DOCUMENTS D' ANALISI GEOGRAFICA. Bellaterra, Barcelona	31.41	63.93
REVISTA DE GEOGRAFIA. Barcelona	15.86	57.11

Source: CINDOC (CSIC)

Table 6. Geographic Journals considered A) Very Important, or B) Important, on "Regional Geographical Analysis". Arranged according to evaluation index "AB".

Surveys sent: 190;

Surveys received: 79;

Answer rate: 41.6%

GEOGRAPHYC JOURNALS EVALUATED	Iv A	Iv AB
ESTUDIOS GEOGRAFICOS. Madrid	61.29	85.32
BOL. ASOCIACION DE GEOGRAFOS ESPAÑOLES. Madrid	57.23	80.37
ANALES DE GEOGRAFIA DE LA UNIV COMPLUTENSE. Madrid	33.20	77.07
CIUDAD Y TERRITORIO. ESTUDIOS TERRITORIALES. Madrid	35.76	69.22
ERIA. Oviedo	45.33	68.55
DOCUMENTS D'ANALISI GEOGRAFICA. Bellaterra, Barcelona	31.41	63.93
INVESTIGACIONES GEOGRAFICAS. Alicante	33.78	61.02
GEOCRITICA/ SCRIPTA NOVA. Barcelona	31.85	58.02
REVISTA DE GEOGRAFIA. Barcelona	15.86	57.11
CUADERNOS DE GEOGRAFIA. UNIV. DE VALENCIA. Valencia	9.81	55.57
GEOGRAPHICALIA. Zaragoza	10.74	53.68
PAPELES DE GEOGRAFIA. Murcia	10.41	41.66
BOL. DE LA REAL SOCIEDAD GEOGRAFICA. Madrid	11.22	40.38
CUAD. GEOGRAFICOS DE LA UNIV. DE GRANADA. Granada	9.52	39.13
REVISTA DE EST. AGROSOCIALES Y PESQUEROS. Madrid	9.69	27.32

Source: CINDOC (CSIC)

Table 7. Geographic Journals considered A) Very important, or B) Important, on "Physical Geography", arranged according to evaluation index "A".

Surveys sent: 132;

Survey received: 50;

Answer rate: 37.8%

GEOGRAPHYC JOURNALS EVALUATED	Iv A	Iv AB
ESTUDIOS GEOGRAFICOS. Madrid	61.44	84.48
BOL. ASOCIACION DE GEOGRAFOS ESPAÑOLES. Madrid	38.64	69.92
ERIA. Oviedo	33.60	57.12
INVESTIGACIONES GEOGRAFICAS. Alicante	26.40	56.32
CUADERNOS DE GEOGRAFIA. UNIV. DE VALENCIA. Valencia	24.64	65.12
ANALES DE GEOGRAFIA DE LA UNIV COMPLUTENSE. Madrid	24	52.8
GEOGRAPHICALIA. Zaragoza	22.36	56.76
PIRINEOS. Jaca, Huesca	20.80	46.4

Source: CINDOC (CSIC)

Table 8. Geographic Journals considered A) Very Important, or B) Important, on "Physical Geography" arranged according to evaluation index "AB".

Surveys sent: 132;

Surveys received: 50;

Answer rate: 37.8%

GEOGRAPHYC JOURNALS EVALUATED	Iv A	Iv AB
ESTUDIOS GEOGRAFICOS. Madrid	61.44	84.48
BOL. ASOCIACION DE GEOGRAFOS ESPAÑOLES. Madrid	38.64	69.92
CUADERNOS DE GEOGRAFIA. UNIV. DE VALENCIA. Valencia	24.64	65.12
NOTES DE GEOGRAFIA FISICA. Barcelona	18	61.20
ERIA. Oviedo	33.60	57.12
GEOGRAPHICALIA. Zaragoza	22.36	56.76
INVESTIGACIONES GEOGRAFICAS. Alicante	26.40	56.32
ANALES DE GEOGRAFIA DE LA UNIV COMPLUTENSE. Madrid	24	52.80
PIRINEOS. Jaca, Huesca	20.80	46.40
CUADERNOS DE INVESTIGACION GEOGRAFICA. Logroño	12.48	45.24
GEOCRITICA/ SCRIPTA NOVA. . Barcelona	16	43.20
REVISTA DE GEOGRAFIA. Barcelona	10.08	38.88
BOL. DE LA REAL SOCIEDAD GEOGRAFICA. Madrid	11.84	34.04
PAPELES DE GEOGRAFIA. Murcia	10.08	33.12
CUADERNOS GEOGRAFICOS DE LA UNIV. DE GRANADA. Granada	9.80	32.20
CIUDAD Y TERRITORIO. ESTUDIOS TERRITORIALES. Madrid	10.56	29.04
DOCUMENTS D' ANALISI GEOGRAFICA. Bellaterra, Barcelona	7.68	26.88

Source: CINDOC (CSIC)

Table 9. Geographic Journals considered A) Very Important, or B) Important, on "Human Geography" arranged according to evaluation index "A".

Surveys sent: 246;

Surveys answered: 94;

Answer rate: 38.2%

GEOGRAPHYC JOURNALS EVALUATED	Iv A	Iv AB
ESTUDIOS GEOGRAFICOS. Madrid	66.21	85.56
GEOCRITICA./SCRIPTA NOVA. Barcelona	47.80	78.68
DOCUMENTS D'ANALISI GEOGRAFICA. Bellaterra, Barcelona	40.88	75.92
ANALES DE GEOGRAFIA DE LA UNIV COMPLUTENSE. Madrid	39.14	85.48
BOL. ASOCIACION DE GEOGRAFOS ESPAÑOLES. Madrid	32.96	88.57
CIUDAD Y TERRITORIO. ESTUDIOS TERRITORIALES. Madrid	32.59	70.28
ERIA. Oviedo	31.15	73.97

Source: CINDOC (CSIC)

Table 10. Geographic Journals considered A) Very Important, or B) Important, on "Human Geography", arranged according to evaluation index "AB".

Surveys sent: 246;

Surveys answered: 94 ;

Answer rate: 38.2%

GEOGRAPHYC JOURNALS EVALUATED	Iv A	Iv AB
BOL. ASOCIACION DE GEOGRAFOS ESPAÑOLES. Madrid	32.96	88.57
ESTUDIOS GEOGRAFICOS. Madrid	66.21	85.56
ANALES DE GEOGRAFIA DE LA UNIV COMPLUTENSE. Madrid	39.14	85.48
GEOCRITICA /SCRIPTA NOVA. Barcelona	47.80	78.68
DOCUMENTS D'ANALISI GEOGRAFICA. Bellaterra, Barcelona	40.88	75.92
ERIA. Oviedo	31.15	73.97
CIUDAD Y TERRITORIO. ESTUDIOS TERRITORIALES. Madrid	32.59	70.28
REVISTA DE GEOGRAFIA. Barcelona	18.78	56.33
GEOGRAPHICALIA. Zaragoza	8.94	50.07
INVESTIGACIONES GEOGRAFICAS. Alicante	14.12	46.79
CUADERNOS DE GEOGRAFIA. UNIV. DE VALENCIA. Valencia	13.24	46.79
BOL. DE LA REAL SOCIEDAD GEOGRAFICA. Madrid	12.51	46.17
PAPELES DE GEOGRAFIA. Murcia	6.88	36.12
CUAD. GEOGRAFICOS DE LA UNIV. DE GRANADA. Granada	6.79	35.65

Source: CINDOC (CSIC)

Without a doubt, entering into evaluations of the journals by individuals are issues such as a journal's longevity and frequency, area of distribution, article preferences, as well as authors' preferences (according to geographic proximity and department affiliation) when sending articles to one or another journal.

3.3. A proposed model combining evaluations of Spanish geographic journals.

As described above, to culminate the analysis of qualitative evaluation of Spanish geographic journals, an integrated evaluation model was thought necessary. It is based on data found in the preceding paragraphs, where the compliance with editorial and scientific content standards valued by academics would take into consideration factors especially important to a scientific periodical, such as: a) measuring international dissemination of journals according to their inclusion in internationally-renowned databases, b) compliance with the requirement for regular frequency, a requirement indispensable to international data systems for picking up a journal, c) external advisors to review articles for publication, d) prestige measured according to the number of years of continuous publication. When reliable data is available on the impact of Spanish journals (as measured by the number of citations), a new factor can then be added to the integrated evaluation model. Table 11 shows the results of applying this model to Spanish geographic journals currently published.

Table 11. Proposed combined Model for evaluating the quality of Spanish geographic journals.

Journals	Years Exist.	Latindex catalog	Representation in international databanks	Peer Review	Academic evaluation	Frequency compliance
ANALES DE GEOGRAFIA DE LA UNIV. COMPLUTENSE	22	YES (26)		yes	85.48	yes
AREA. REVISTA DE DEBATS TERRITORIALS	9	NO (15)		no	8.75	ND
BOLETIN DE LA ASOCIACION DE GEOGRAFOS ESPAÑOLES	24	YES (32)	FRANCIS	yes	88.57	yes
BOLETIN DE LA REAL SOCIEDAD GEOGRAFICA	27	NO (20)		No	46.17	ND
BOLLETI DE GEOGRAFIA APLICADA	4	No (24)		yes		ND
CUADERNOS DE INVESTIGACION GEOGRAFICA	25	YES (31)		yes	16.28	yes
CUADERNOS GEOGRAFICOS DE LA UNIVERSIDAD DE GRANADA	32	YES (30)		yes	39.13	yes
CUADERNOS GEOGRAFICOS UNIVERSIDAD DE VALENCIA	39	NO (19)		No	55.57	yes
DOCUMENTS D'ANALISI GEOGRAFICA	23	YES (30)	FRANCIS, GEODOC, GEOBASE	yes	75.92	yes
ERIA	25	NO (25)		yes	73.97	yes
ESTUDIOS GEOGRAFICOS	63	YES (28)	GEOBASE, FRANCIS, GEOREF, HISTORICAL ABSTRACTS	yes	85.56	yes
GEOFOCUS ¹⁰	2	NO		yes	19.27	yes
GEOGRAPHICALIA	26	YES (30)	PASCAL, GEOREF, POPULATION INDEX	yes	56.76	yes
ILERDA. CIENCIAS	13	NO (21)		No	18.41	yes
INVESTIGACIONES GEOGRAFICAS	22	YES (33)	GEOBASE	yes	61.02	yes
LURRALDE. INVESTIGACION Y ESPACIO	25	YES (33)	GEOBASE	yes	18.51	yes
NIMBUS. REV. CLIMATOLOGIA, METEOROLOGIA Y PAISAJE	5	YES (31)		yes	15.55	yes
PAPELES DE GEOGRAFIA	19	YES (28)		yes	41.66	yes
PIRINEOS	58	YES (28)	GEOBASE, FRANCIS, GEOABST, SOILS AND FERTILIZERS, BGI	yes	27.32	no
POLIGONOS. REVISTA DE GEOGRAFIA	12	NO (24)	GEODADOS	No	15.7	yes
REVISTA DE GEOGRAFIA	36	NO (19)		No	57.11	no
REVISTA DE TELEDETECCION	10	YES (25)		No	15.08	no
SCRIPTA NOVA. REV ELECTRONICA DE GEOGRAFIA Y CS	6	NO (30)		yes	45.0	yes
SERIE GEOGRAFICA	12	YES (31)		No	19.16	yes
TERRITORIS. REV. DEP. DE CIENCIAS DE LA TERRA	5	NO (24)		yes	11.28	yes
TREBALLS DE LA SOCIETAT CATALANA DE GEOGRAFIA	19	NO (15)		No	15.53	ND
VASCONIA. CUADERNOS DE HISTORIA Y GEOGRAFIA	5	YES (27)		No	S.E.	no
XEOGRAFICA	2	YES (30)		yes	5.15	yes
ZUBIA	14	YES (29)		yes	7.47	yes

Source: CINDOC (CSIC)

ND=not defined

¹⁰ This journal is issued in a paper-less Internet format only and is not, therefore, included in the Latindex catalog. The Latindex regional data system is considering guidelines, in addition to those already extant, to be used specifically for Internet publications in order to admit them to its catalog.

¹¹ Since this journal is published exclusively on the Internet, it is not listed in the Latindex catalog. The Latindex Regional Information System is studying new standards specifically for Internet journals.

With this data it is possible to establish different considerations as a function of which of them are thought to have the most weight. In any event, a number of the journals comply satisfactorily with all of the guidelines analyzed. The following journals, in alphabetical order, meet the standards:

- ANALES DE GEOGRAFÍA DE LA UNIVERSIDAD COMPLUTENSE, Madrid
- BOLETIN DE LA ASOCIACIÓN DE GEÓGRAFOS ESPAÑOLES, Madrid
- DOCUMENTS D'ANÁLISI GEOGRAFICA, Barcelona
- ERIA, Oviedo
- ESTUDIOS GEOGRÁFICOS, Madrid
- GEOGRAPHICALIA, Zaragoza
- INVESTIGACIONES GEOGRÁFICAS, Alicante

3.4. Some reflections on the qualitative evaluation of Spanish geographic journals.

First, it can be observed that the average number of quality standards (excluding the most basic, which all journals meet) achieved by Spanish geographic journals is 18.6 percent. If we compare this fact with the evaluation made in 2001 and 2002 ¹² (13 standards achieved on average), the journals' overall improvement is clear.

However, this average of 18.6 standards is met by 23 of the total number of journals analyzed (see table in Annex 2). So, even while many journals remain at relatively low levels, it must be said that the number of journals accepted by the Latindex catalog is 19 while two more Internet publications are awaiting inclusion pending the development of standards specifically for them. Therefore 63.8% of the 30 geographic journals analyzed have been accepted by the catalog. This is a much higher percentage than for other journals in the humanities and social sciences, taking into account that at the end of 2001 of the 1,278 social science and humanities journals analyzed, only 174 ¹³ have been accepted. Currently only 548 Spanish journals (including those in: health sciences, science and technology) have achieved this.

Secondly, if by achieving an Iv AB value equal to or higher than 70, a journal is to be considered "Very Important" or "Important" by the scientific community, then those journals achieving the highest evaluations and considered the very best are:

- Boletín de la AGE (Iv AB = 88.57)
- Estudios geográficos (Iv AB = 85.56)
- Anales de Geografía de la UCM (Iv AB = 85.48)
- Scripta Nova (Iv AB = 78.68)
- Documents d'Análisi Geogràfica (Iv AB = 75.92)
- Eria (Iv AB = 73.97)

Thirdly, the results of the proposed evaluation model for Spanish geographic journals place at the head of the list eleven geographic journals published in Spain that

¹² Román Román, A., et al. "Los criterios de calidad editorial Latindex en el marco de la evaluación de las revistas españolas de Humanidades y Ciencias Sociales" Rev. Esp. Doc. Cient., 2002, 25 (3): 286-307.

¹³ Ibid. p. 295.

comply with practically all of the quantitative and qualitative guidelines analyzed. These are:

- Anales de Geografía de la UCM
- Boletín de la AGE
- Documents d'Anàlisi Geogràfica
- Eria
- Estudios geográficos
- Geographica
- Investigaciones geográficas
- Cuadernos de Geografía
- Papeles de Geografía
- Cuadernos Geográficos de la U. de Granada
- Cuadernos de Investigación Geográfica de La Rioja

Finally, it can be observed that journals receiving the highest rankings, from academics and the integrated model, comply with the requirements of the Latindex catalog; they have achieved satisfactory levels of editorial quality, besides enjoying recognition by experts for their adherence to scientific standards.

4. RECENT CHANGES IN SUBJECT MATTER IN ARTICLES PUBLISHED BY SPANISH GEOGRAPHIC JOURNALS:

In the previously mentioned works presented by professors Albet, García Ramón y Nogué (1992) at the 27th Congress of the International Geographic Union, and the joint report in "Geografía 21" (Gil Olcina, et al., 2001) on qualitative research results in geography, there are included evaluations on the principal issues addressed by Spanish geographers and those published in Spanish geographic journals.

Since the treatment of the database of Spanish geographic journals by CINDOC (an agency of CSIC) which has created a thematic classification of documents it contains, tables have been created that reflect the development of subject matters dealt with in articles since 1985 (Tables 12 and 13). The accounting of subject matters included in the first column of the first of these tables proceeds from a generic thematic classification undertaken by CINDOC; a more detailed account of thematic factors would require an analysis of the descriptors of these articles, an aspect that would have exceeded the general objectives and scope of the present work.

Broadly then, it can be pointed out that Geography's "classic" subject matters continue to occupy the majority of the articles published in Spanish geographic journals. These are: Physical Geography, Population Geography, Rural Geography, Urban Geography, Political and Economic Geography, which would also include works on regional issues. All of these, except for those dealing with Rural Geography, show a growing tendency during the years under study for an increase in the last three years for just a few of these subjects: Population, Political, and Economic. The group of epistemological subjects (e.g. geographical theory and methodology) shows little growth even while still retaining an important place in the corpus of articles published. For its part, in the last few years there has been an important growth in the number of articles dea-

ling with the new Cartography (e.g. remote sensing and GIS) and Applied Geography. Works dealing with tourism should also be noted; while these had represented a small number of articles in the mid-1980s, they have since taken an outstanding place in the body of articles published. The rise of tourism as a subject matter has led to the creation of a magazine dealing specifically with it. Even though it is not exclusively geographical, it does publish numerous works done by geographers ("Cuadernos de Turismo, 1998).

Table 12. Development of Subject Matters in Spanish Geographic journals 1985-2002

Subjects treated	1985-89	1990-94	1995-99	2000-02	Total
Geog. Theory	190	237	262	163	852
Latitudes & altitudes	4	15	25	12	56
Methodology	118	211	223	109	661
Geog. Documentation	159	264	272	104	799
Spanish Cartography	150	316	340	204	1010
Practical Geography.	217	311	334	216	1078
History of Geog.	125	152	121	83	481
Historical Geog.	205	202	217	102	726
Geomorphology	245	228	215	71	759
Paleogeography	44	58	76	54	232
Soil science./Pedology	31	71	68	19	189
Bio-geography	502	423	506	189	1620
Climatology	131	211	277	100	719
Hydrology	108	140	163	90	501
Oceanography	24	9	11	8	52
Cosmos	9	11	39	9	68
Population & Social Geog..	379	553	537	450	1919
Rural&Agrarian Geog.	361	557	714	275	1907
Urban Geography	290	373	475	288	1426
Politico-economic Geog.	364	647	824	488	2423
Industrial/Energy Geog.	120	168	154	87	529
Commercial/Media Geog.	120	158	153	92	523
Tourism/Recreation	66	96	278	176	606
Source: CINDOC (CSIC)					

Table 13. Percentile Distribution of the Subjects Treated in Relation to the total documents produced during the periods studied.

Subjects treated	1985-89 (10,036)	1990-94 (13,841)	1995-99 (11,784)	2000-02 (5,634)
Geographic Theory	1.89	1.7	2.2	2.8
Latitudes.& altitudes	0.03	0.10	0.21	0.21
Methodology	1.17	1.52	1.89	1.93
Geog. Documentation	1.58	1.90	2.30	1.84
SpanishCarography	1.49	2.28	2.88	3.62
Practical Geog.	2.16	2.24	2.83	3.83
History of Geog.	1.24	1.09	1.02	1.47
Historical Geog.	2.04	1.45	1.84	1.81
Geomorphology	2.44	1.64	1.82	1.26
Paleogeography	0.43	0.41	0.64	0.95
Soil sci./Pedology	0.30	0.51	0.57	0.33
Biogeography	5.0	3.05	4.29	3.35
Climatology	1.30	5.49	2.35	1.77
Hydrology	1.07	1.01	1.38	1.59
Oceanography	0.23	0.06	0.09	0.14
Cosmos	0.08	0.28	0.33	0.15
Population & Social Geog..	3.77	3.99	4.55	7.98
Rural& Agrar.Geog.	3.59	4.02	6.05	4.88
Urban Geog.	2.88	2.69	4.03	5.11
Politico-econ.Geog.	3.63	4.67	6.99	8.66
Industrial/Energy Geog.	1.19	1.21	1.30	1.54
Comercial/Media Geog.	1.19	1.14	1.29	1.63
Tourism/Recreation	0.65	0.69	2.35	3.12

Source: CINDOC (CSIC)

NOTE: It should be remembered that the partial totals in Table 12 need not agree with the totals in Table 13; a document may be classified under more than one subject. Nevertheless, the number given for documents for the periods of years covered is the actual number of geographical documents (ISOC database) published in those years.

While not reflected in the table, it should not be forgotten that a series of subjects has been developed by Spanish geographers in recent years that have merited attention in a number of Spanish journals. This is the case of works concerning local development and articles on the geography of risks, sustainability and the environment, human geography, information society, globalization, culture and territories. In some cases, these "new" subjects have merited numerous monographs.¹⁴

¹⁴ To have an idea of the importance these new subjects have for Spanish geographic journals, a detailed analysis of descriptors contained in the CINDOC database provides the following data for articles published 1985-2002: local development (430), environment/sustainable development (37), globalization (257), information society (19), government and territory (57), culture and territory (39). Even though the period studied begins in 1985, it should be noted that the greater percentage of these articles were published from 1995 to 2002.

5. CONCLUSIONS: A GOOD TIME FOR FURTHER IMPROVEMENT.

Spanish geographic journals are in good health, generally. There is a good list of titles that are outlets for geographical research undertaken in the various regions of Spain. They maintain regular publication schedules, and are progressively adapting to international bibliographical quality.

However, a few issues must be addressed for the sake of the constant improvement expected of scientific journals:

* Scientific journals are directed at highly-qualified professionals. In our case, geographers have had careers in research and university-level teaching and therefore scrupulously adhere to the formalities and contents that grant a journal its quality. Journals should have effective editorial and evaluation staffs that review articles and who scrupulously control the frequency of the journals. The publication of scientific journals is a voluntary act of transmitting knowledge to professionals of the discipline and the public who they serve as researchers. The publication of a study in a journal is, after all, a moral obligation to which we are called by academic regulations and our understanding of placing science in the service of society. To publish is to transmit science and is therefore an essential part of the role played by scientists and scientific institutions today. It is also a way of measuring the dynamism and vitality of a scientific discipline. This is a basic principle that should be acknowledged by every researcher committed to the advancement of science and wishing for social justification.

* The publication of a scientific journal is a voluntary act. It depends on a person having the desire to undertake work generally with few economic resources. This supposes that if the parent institution of the journal is weak or, to the contrary, if it depends on a person who acts as the principal promoter of its publication, then that publication is doomed to suffer the inconstancy of a publisher or editor who affects its continuity. The role of the editor, who is charged with coordinating all aspects of publishing a scientific journal, is vital. But this important role should be backed up by the efforts of external evaluation agencies. The admission of an active editorial board or advisor by a journal is a commitment in the service of self-less and good management. The work of evaluating an article is always a commitment, but it should be understood as a mechanism for quality improvement. Journals considered to be of national interest have carried out an important effort to adapt to international bibliographical evaluation standards and have created or enlarged where necessary their council of advisors. The "Boletín" of the Association of Spanish Geographers (AGE), for example, has recently approved new internal regulations and renovated its editorial and advisory offices, having internationalized the latter: a much-valued requirement in bibliographical indexes. This would place the AGE's official journal in the top ranks of bibliographical indexes, meriting it heightened consideration among the geographic journals published in Spain.

* The general lack of both human and economic resources in editing is to the detriment of quality of journals. Very few Spanish geographic journals have personnel in charge of article layouts (Ería). This process is generally left in the hands of printers and, despite their notable efforts, style uniformity has not been achieved. On the other hand,

there has been a great effort in recent years to improve the general formats and texts in practically all Spanish geographic journals.

* With regard to the dissemination of results of articles published in Spanish scientific journals (what has come to be known as "bibliographic impact"), the majority of these publications are not included in the Institute for Scientific Information (ISI) database. This means that the consideration of these journals by the international community is greatly limited. Nevertheless, this does not mean that Spanish geographic journals do not deserve to be included by international databases of periodical literature. Gutiérrez Puebla (1991) points out the fact that the so-called international geographic journals, which are obligatory references on the Social Sciences Citation Index (SSCI), while having no national bias, do not also have an international profile. This is because geographers of those countries having an ample tradition of geography (Germany, France, Spain, Portugal, and Italy) are likely to publish in journals of their own countries rather than those cited in the SSCI. This fact reinforces the idea that to evaluate Spanish geographic science on the basis of publications that happen to be included in the SSCI is absurd. It does not reflect the true worth and quality of Spanish geographic research, which is one of the most dynamic in the world.

* Evaluation procedures for articles should be improved. This presupposes the creation of agile advisory councils, consisting of specialists in the various branches of Geography, that can evaluate articles without delay. The Spanish geographic community should become accustomed to outside evaluation as a process inherent to publishing a high-quality scientific journal. Outside evaluation, after all, is of benefit to authors since it introduces improvements so that their research articles can be esteemed by the scientific community.

* The process and guidelines for external evaluation should be as clear as possible. Even though all Spanish geographic journals include pages explaining rules for submission of original articles, only the "Boletín" of the Association of Spanish Geographers (AGE) publishes in every issue the bylaws for its editorial board and advisor.

* The editors of journals published in areas of Spain having historically second official languages should carefully consider the pluses and minuses of publishing in those languages. Although the reasons may be entirely debatable, the fact is that to be evaluated by respected bibliographic indexes (both in and out of Spain) and have research considered by evaluation committees, non-Castilian Spanish authors and journals are at a disadvantage. A possible solution would be to add Internet versions of these journals. That is to say, a print version in any language preferred, but an Internet version in another official language. Both should conform to quality standards and have an ISSN. This would of course mean an additional expense to the publishers.

* Article summaries in non-Spanish languages (e.g. English, French), that are required of the authors, should be improved and enlarged. This would improve the international acceptance of the journals. The cost of including two-page foreign language summaries for each article would be quite minimal.

* Finally, publishing on the Internet is a challenge that Spanish geographic journals must meet soon. As has been pointed out, there are periodical journals that are published only on the Internet, e.g. "GeoCrítica", and "Geofocus". The first of these is actually the most important Internet portal for publishing geographic studies in Castilian Spanish. Other geographic journals have responded to this new reality by placing the entirety of their print versions in a .pdf format at this portal. This is the case of journals such as "Investigaciones Geográficas" and the "Boletín de la Asociación de Geógrafos Españoles", among others. In other instances, only the index or front page is put on the Internet that indicates an issue's contents, e.g. "Serie Geográfica", "Anales de Geografía de la Universidad Complutense de Madrid", "Documents d'Análisis Geográfica", "Polígonos". The development of library management science at universities has meant that indexes are now offered on a number of subjects (including geography) as a service to library users. Therefore, the titles of articles published by the various Spanish geographic journals can now be known on the Internet. In general, the efforts by publishers should be recognized who at least make journals known on the WebPages of associations, organizations, and departments, even though they might not provide indexes or lists of articles. Nevertheless, publishers of Spanish geographic journals should make the effort to include the total or partial contents of these on the Internet. This is another means of improving the international dissemination of journals.

* These lists of Spanish journals evaluated do not mean to establish any sort of arbitrary, closed, or definitive ranking system that alone should be used to evaluate research undertaken by university professors. They are presented as the result of applying quantitative and qualitative methods for evaluating the quality of Spanish geographic journals and offered as a simple reference of the efforts made in recent decades by some editors to convert their journals into important media for publishing geographic research in Spain. However, a period of reflection on the part of scientific publishers in Spain would seem necessary in order to agree on the need for furthering the quality of their journals and their obligation to faithfully comply with publication deadlines. These are the keys to making journals into research publication vehicles that are respected by the discipline as a whole.

<p>ANNEX 1 SPANISH GEOGRAPHIC JOURNALS (1876-2004)</p>				
TITLE	PUBLISHER	CURRENT FREQUENCY	YEARS OF OPERATION	OBSERVATIONS
Alisios. Revista de Geografía	Department of Geography. University of La Laguna	Annual	1991-1993	Only 3 issues published. Successor of the "Revista de Geografía Canaria" published annually, between 1984 and 1990, by Faculty of Geography and History University of La Laguna.
Anales de Geografía de la Universidad Complutense	Faculty of Geography & History, Depts. Of Physical, Human, & Regional Geography, Complutense University of Madrid	Annual	1981-	Frequency changes according special issues published in homage.
Área. Revista de Debats Territorials	Council of Barcelona. Green spaces dept	Annual	1994-	Not specifically a geographic journal, but it does publish articles on geography.
Baetica. Estudios de Arte, Geografía e Historia	Faculty of Philosophy & Letters, University of Málaga	Annual	1978-	Publishes articles on the three disciplines indicated, not exclusively Geography.
Boletín de la Asociación de Geógrafos Españoles	Association of Spanish Geographers	Semi-yearly	1984-	Between 1984 and 1999, only infrequent monographs were published. As of 1999, monographs have alternated with miscellaneous issues. In 2003 it began publishing according to the ordinary calendar.
Boletín de la Real Sociedad Geográfica	Royal Geographic Society of Spain	Annual	1876-	It has been known by different names and has undergone changes in frequency of publication. It is the oldest geographic journal published in Spain, and one of the oldest in Europe.
Bulleti de Geografia Aplicada	Geographic Society of the Balearic Islands	Annual	1999-	Published only one issue.

Cuadernos de Geografía. Universidad de Valencia	Department of Geography. University of Valencia	Semi-yearly	1964-	Published annually between 1964 and 1970. Since 1971 it has published two issues annually.
Cuadernos de Geografía (Cádiz)	Department of Geography & History, Faculty of Philosophy & Letters. University of Cádiz	Annual	1989-1993	In 1991 its name was changed to "Cuadernos de Geografía y Ordenación del Territorio"
Cuadernos de Investigación Geográfica	Department of Human and Social Sciences. University of La Rioja.	Annual	1980-	Has undergone several changes in frequency.
Cuadernos Geográficos de la Universidad de Granada	Department of Geography, University of Granada	Annual	1971-	Until 1986 it was published annually; between 1987 and 1996 it published two issues per year. Since 1996 it has been published annually.
Didáctica Geográfica	Group on Teaching, Association of Spanish Geographers	Annual	1977-1986 1996-	In its first period, it was published by Institute of Education Sciences and the Department of Geography of the University of Murcia. In its second period, only two issues have been published (1996 and 1997). It is backed by Department of Specialized Curriculum of the University of Burgos
Documents d'Anàlisi Geogràfica	Department of Geography, Autonomous University of Barcelona	Semi-yearly	1982-	The Department of Geography of the Autonomous University of Barcelona published 3 series of documents between 1975 and 1981, that can be considered direct antecedents of the "Documents d'Anàlisi Urbana" (3), "Documents d'Anàlisi Territorial" (2), and "Documents d'Anàlisi Metodològic en Geografia" (2)).
Ería	University of Oviedo	Every 4 months	1980-	Has undergone several different periods of frequency. Between 1980 and 1982, annually, and between 1983 and 1986, bi-yearly. Since 1987, it has been published every 4 months.
Espacio, Tiempo y Forma. Geografía	Faculty of Geography & History, National Univ. for Distance Education	Annual	1988-	

Estudios Geográficos	Institute on Economics and Geography, Council on Advanced Scientific Research (CSIC).	Every 3 months	1940-	The publisher's name has varied according to changes at the Elcano Institute, a part of the CSIC. In 1940, it published one issue (October), and as of 1941 began publishing every three months.
Geográfica. Cuadernos Críticos de Geografía Humana	Department of Human Geography University of Barcelona	Every 2 months	1976-1994	It published 100 paper issues between January 1976 and December 1994. Since then, it has released 4 digital publications: -Scripta Vetera (digital issues of Geográfica) -Scripta Nova (Internet journal of Geography and Social Sciences). Published irregularly with between 13 to 18 issues annually. -Biblio 3W (Internet bibliographic journal of Geography and Social Sciences). More than 400 issues published since 1996 (Revista Bibliografía de Geografía y Ciencias Sociales). -Ar@cne (Journal of Internet resources for Geography and Social Sciences since 1997. It is the most important portal of bibliographic resources in Spain.
Geofocus. Revista internacional de Ciencia y Tecnología de la información Geográfica	Grupo de Métodos Cuantitativos, Sistemas de Información Geográfica y Teledetección of the Association of Spanish Geographers & RedIRIS (Spanish R+D network)	Annual	2001-	Digital journal
Geographica	Institute on Applied Geography (CSIC)	Annual	1954-1986	The first of its two periods of publication was from 1954 to 1975, the second was between 1975 and 1986. It ceased publication in 1986.
Geographica	Department of Geography, University of Zaragoza & Institute on Applied Geography (CSIC).	Annual	1977-	It has gone through several stages in the frequency of publication. Between 1977 and 1978, it was annual. In 1979, it had two issues. Between 1980 and 1984 it was published every three weeks. It ceased publication in 1986 and 1987. The second stage began in 1988 when it began annual publication. Two issues were published in 1997 because of a special edition (Issue No. 34) that recorded the reports and proceedings of the 8th Colloquium on Rural Geography held at Jaca. As of 2000. A new period began in 2000 (Issue No. 38) with the publication of a semi-yearly edition.

Ilerda. Ciencias Investigaciones Geográficas	Research Institute of Ilerda University Institute of Geography, University of Alicante	Annual Every 4 months	1990-1983-	Specialized in Physical Geography. Has gone through several periods of frequency of its editions. Between 1983 and 1994, it was published annually. As of 2002, it has been published four times each year.
Lurralde. Investigación y Espacio	Basque Geographic Institute "Andrés de Urdaneta"	Annual	1978-	
Millars. Espai i Història (Geografia e Història)	Department of History, Geography & Art, of the Jaume I of Castellón University	Annual	1974-	Between 1974 and 1990, it was published by the University College of Castellón.
Minius. Revista do Departamento de Historia, Arte e Xeografia	Department of History, Art & Geography, University of Vigo	Annual	1992-	Not specifically a geographic journal. It publishes works from the branches of science represented by the publisher/department.
Nimbus. Revista de Climatología, Meteorología y Paisaje	University of Almería Publications Service.	Semi-yearly	1998-	
Norba. Revista de Arte, Geografía e Historia	University of Extremadura	Non-specific frequency	1981-1989	Published 7 issues, the last in 1989
Notes de Geografia Física	Department of Geography, University of Barcelona	Semi-yearly	1979-1996	
Papeles de Geografía	Department of Geography. University of Murcia	Semi-yearly	1968-	It has undergone several periods of frequency. Between 1968 and 1980 it was published annually, even while one issue did correspond to two years. It ceased publication from 1980 to 1984. Between 1984 and 1995 it was published annually. It has been published semi-yearly since 1995.
Paralelo 37. Revista de Estudios Geográficos	University College of Almería, University of Almería	Annual	1977-1994 2003	It has gone through several different periods of publishing frequency. Between 1977 and 1983 it was published annually. It was not published in 1984. In 1985 a special edition was published in honor of Prof. Manuel de Terán. Between 1986-1989, it was published annually. In 1990, it was not published. It was annually published again between 1991 and 1994. It ceased publication in 1994. In 2003, it began a new period of publication.

Pirineos. Polígonos. Revista de Geografía	Ecology Inst. of the Pyrenees (CSIC) Department of Geography, University of León.	Semi-yearly Annual	1945- 1991-	Specialized in Physical Geography. Ten issues were published until it then ceased publication. In 2002 a new period began when it became the journal of the Department of Geography of the Universities of Castilla and León.
Revista Catalana de Geografia Revista de Geografia	Cartographic Institute of Catalonia Department of Geography, University of Barcelona	Every 3 months Annual	1978-1993 1967-1997 2002-	 The first period lasted until 1997. As of 2002, it began another period as the journal of the geography departments of Barcelona, Lleida, and Tarragona. It is published annually.
Revista Terra Revista de Teledetección Serie Geográfica	Geographic Society of Galicia Remote-sensing Association of Spain Department of Geography, University of Alcalá de Henares	Freq. unspecified Every 3 months Annual	1983-1993 1993- 1991-	It published 5 issues. Issues 7 and 10 cover two years.
Tarraco	Department of Geography, University of Barcelona (Tarragona)	Annual	1980-1995	Had two periods. The first period was between 1980 and 1984. From 1985 to 1990, it was not published. From 1990 to 1995 it began its second period. Only 3 issues published. Ceased publication in 1995.
Terra. Revista Catalana de Geografia, Cartografia i Ciències de la Terra	Cartographic Institute of Catalonia	Every 3 months	1994-	Successor of "Revista Catalana de Geografia".
Territoris	Department of Earth Sciences, University of the Balearic Islands	Annual	1998-	By 2001, 3 issues published. It is the successor of "Treballs de Geografia", published by the same department.
Trabajos de Geografía	Department of Geography. Faculty of Philosophy & Letters, University of Palma de Mallorca	Annual	1970-1988	Ceased publication in 1992 (Issue No. 44) and became "Treballs de Geografia".
Treballs de Geografia	Department of Geography. Faculty of Philosophy & Letters, University of Palma de Mallorca	Annual	1988-1992	

Treballs de la Societat Catalana de Geografia	Geographic Society of Catalonia	Semi-yearly	1984-	
Vasconia. Cuadernos de Historia y Geografia	Society for Basque Studies	Annual	1983-	Specialized mostly in historical subjects. It is published irregularly.
Vegueta. Anuario de la Facultad de Geografía e Historia	Faculty of Geography & History, University of Las Palmas de Gran Canaria	Annual	1992-1998	Only 3 issues published.
Xeográfica. Revista de xeografía, territorio e medio ambiente	Department of Geography, University of Santiago de Compostela	Annual	2001-	
Zubia	Institute for Studies of La Rioja	Annual	1983-	It started in 1983 as "Berceo Ciencias". Then in 1985 it became "Zubia". Since 1989 it has published annexes entitled Zubia Monográfico, to give room to larger works or to those dealing with a single subject matter.
<p>Prepared from the database of geographic journals at CINDOC (CSIC)</p> <p>* Those listed in bold are no longer in print.</p>				

ANNEX 2
LATINDEX CATALOG
QUALITY STANDARDS
FEBRUARY 14-16, 2001 - LISBON

BASIC CHARACTERISTICS
(PRE-REQUISITES FOR EVALUATING A JOURNAL)0

- 1 **Editorial body:** Editorial boards and scientific review boards should be mentioned.
- 2 **Scientific content:** in order to quality, at least 40% of the published documents to be evaluated should consist of: a) original articles; b) technical articles; c) communiqués from congresses; d) letters to the editor or short articles; e) reviews, and state of the science.
- 3 **Minimum one year of age:** in order to be evaluated, a journal should have commenced publishing at least 12 months before the analysis is undertaken.
- 4 **Identification of authors:** Work should be signed with the full name of the author or should have a declaration by a responsible institution.
- 5 **Place of publication:** It should be printed clearly in the journal
- 6 **Publisher:** The journal should clearly identify the publishing organization or institution.
- 7 **Editor:** The journal should clearly identify the editor.
- 8 **Address:** The journal should provide its physical or electronic address for the purpose of subscriptions requests, exchange, etc

PARAMETERS FOR JOURNAL FRAMEWORK

- 9 **Layout (cover/title):** Should include a complete title, ISSN, volume, issue number, date and bibliographic heading
- 10 **Frequency of publication:** Mention of the journal's frequency of issuance or number of annual issues is indispensable.
- 11 **Table of contents:** There should be in each edition a table of contents, index or summary that include the title, author, and at least an initial page.
- 12 **Bibliographic annotation at the beginning of articles:** The bibliographic annotation should go at the beginning of each article and identify sources.
- 13 **Bibliographic annotation on each page:** The annotation should identify sources on each page of articles published.
- 14 **Members of the publishing committee or editorial council:** The names of the publishing committee or editorial council must be provided.
- 15 **Institutional affiliation of the members comprising the publishing committee or editorial council:** The names of the institutions to which belong the members of the publishing committee or editorial council must be provided. This is not to be confused with the affiliations of the membership of the Advisory Council or Scientific Committee whose place of work must also be identified. Providing the country of origin is not sufficient.
- 16 **Authors' affiliation:** At least the name of the institution employing the author or authors must be provided. This information can be provided at the beginning or end of articles, or in the list of contributors or information on authors that appear at the beginning or end of each edition.

PARAMETERS FOR EDITORIAL MANAGEMENT AND POLICY

- 17 **Date of receipt and acceptance of originals:** Both dates must be provided.
- 18 **ISSN:** ISSN must be provided.
- 19 **Definition of the journal:** Mention should be made of the journal's objectives, coverage, and/or to whom it is directed.
- 20 **Referee system:** the journal must have a procedure for selecting articles for publication.
- 21 **External evaluators:** The journal should have evaluators from outside the journal itself or the publishing institution.
- 22 **External authors:** At least 50% of the works published should be from authors external to the journal itself. In the case of journals published by associations, these should be authors not belonging to the editorial staff or directorate of the association.
- 23 **Editorial open-ness:** At least one-third of the publishing committee or editorial council should be non-members of the institution publishing the journal.
- 24 **Information Services:** The journal should be included in some services of indexation, abstracts, directories, or databases. The journal would qualify equally if mentions itself the database or if the database references it (by means of a data search)
- 25 **Publication frequency:** Journals should publish annually the provide-for number of issues.

PARAMETERS CONCERNING JOURNAL CONTENTS

- 26 **Original content:** At least 40% of the articles must be works reflecting original research, scientific communication, or original work..
- 27 **Instructions to authors:** There should be instructions to authors requiring summaries, and the receipt of original works.
- 28 **Bibliographic references:** Authors are required to indicate the norms used for stating bibliographic references.
- 29 **Requirement for originality:** In the journal's outline, or instructions to authors, the requirement for original submissions should be mentioned..
- 30 **Summary:** Articles should be accompanied by at least a summary in the language of the original article.
- 31 **Summary in two languages:** Articles should be summarized in the original language, as well as a second language.
- 32 **Keywords:** A list of keywords in the original language should be included.
- 33 **Keywords in two languages:** A list of keywords in the original language and, if possible, a second language should be included.

Source: Latindex

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III

THE ACTIVITY OF GEOGRAPHICAL INSTITUTIONS

THE “CENTRO GEOGRÁFICO DEL EJÉRCITO”

MARIANO ABRIL DOMINGO

1. INTRODUCTION

The *Centro Geográfico del Ejército* is the technical body that supplies geographic information to the Spanish Army. That is its *raison d'être*; however, many of the activities performed go beyond any military scope: the Centre is member of many Spanish and international civilian or military working groups; it collaborates with other Spanish and foreign geographic and mapping agencies; in general, ordnance maps have a free diffusion, etc.

In brief, all these characteristics make us say that the *Centro Geográfico del Ejército* is another geographic agency member of the Spanish Committee for the *International Geographical Union*. Now we are to present a description of the *Centro Geográfico del Ejército* in relation to geographic matters; we start with a short comment on its origins, its present organisation and geo-spatial information generation flow, and we will end with several points of interest such as the *Carta Digital* and the *Unidad de Apoyo Geográfico*.

2. HISTORICAL SUMMARY

In 1810 the *Cuerpo de Estado Mayor* (Staff Corps) was created in the Spanish Army; everything related to geography and topography as well as maps and sketches filing was entrusted to its *Dirección General* (Head Office). That was a kind of embryonic *Centro Geográfico* until 1838 when the *Depósito de la Guerra* (War Depot) was created depending from the *Dirección General del Cuerpo de Estado Mayor*.

In 1865 they started publishing the *Mapa Itinerario Militar de España* (Military Itinerary Map of Spain), at the scale 1:500000. In 1867 the series eight volumes completed its publishing; it was the first map of Spain made from annotations on the ground. It was a planimetric map.

In 1870 the *Instituto Geográfico y Estadístico* (Spanish Geographical and Statistical Institute) was created, present *Instituto Geográfico Nacional* (Spanish Geographical Institute); it was entrusted the making of the *Mapa Nacional* (National Map) at the scale 1:50000.

In 1882 the *Comisión Geográfica de Marruecos* (Geographical Commission on Morocco) was created; its mission was to study that area, that was almost unknown in Europe. In that same year, they began preparing the *Mapa Militar de España* (Military Map of Spain) and to mark out the Spanish-Portuguese boundary.

In 1923 it was decided that, in order to increase the work on the *Mapa Nacional* at the scale 1:50000, the *Depósito de la Guerra* was to collaborate with the *Instituto Geográfico y Catastral* (Spanish Geographical and Cadastral Institute). This collaboration lasted until 1931; in eight years the *Depósito* drew up, computed and represented graphically 51 sheets of the *Mapa*, while other 10 sheets were almost completed.

In that year, the first terrestrial photogrammetry mapping instruments were acquired: an "Oral-Zeiss" stereoautograph, *fototheodolites*, etc., and applied at first to drawing up the "fiftythousand map" of uneven zones such as the Pyrenees, *Sierra del Guadarrama* and the Canary Islands. It was, however, in Morocco where the new methodology was checked by restituting areas under enemy fire.

After the Spanish Republic was proclaimed, the *Depósito de la Guerra* was dissolved in 1931, while the *Comisión Geográfica de Marruecos* continued on. After the Civil War (1936-1939), the Act dated September 22nd, 1939 re-organised the Ministry of Defence and created a *Servicio Geográfico y Cartográfico del Ejército* (Army's Geographic and Mapping Service) that inherited the functions of former *Depósito de la Guerra*.

The new Service faced overwhelming duties: the Country's reconstruction and development required having the 1:50000-scale *Mapa Nacional* available as soon as possible. In 1941 the *Servicio Geográfico* began again to collaborate with the *Instituto Geográfico* to complete the *Mapa*. Thus, in twenty-six years, from 1942 to 1968, the Service prepared 168 sheets, including the triangulation, geometric levelling, detailing, computation and drawing of drafts at a scale 1:25000, with contour lines at every 50 m. These sheets were handed over to the Instituto to be published under the "fiftythousand map".

The Service was also ordered to carry out the regular drawing up of the Spanish protectorates and colonies in Western Africa and the Gulf of Guinea. Areas that were not properly mapped as there were only some rudimentary maps with no scientific value.

In order to answer to so many needs, the *Escuela de Geodesia y Topografía del Ejército* (Army's Geodesy and Topography School) was created in 1942, where Army officers acquired the special training needed for their work in the *Servicio Geográfico*. They also had to update their equipment for field, study and workshop work: the Photogrammetry Section got modern material and the Graphic Arts Workshops applied the latest methods. Moreover, the *Servicio Geográfico y Cartográfico del Ejército* changed its name to *Servicio Geográfico del Ejército* (Army's Geographic Service).

Thus, Ordnance Mapping achieved a large progress: in 1944 the *Mapa Militar Itinerario* at the scale 1:200000 completed its publishing and in 1968 the Service completed the drawing-up of the *Mapa Nacional* sheets entrusted to them.

After this effort, the *Servicio Geográfico del Ejército* undertook the task of produ-

cing Spanish maps according to the *Bases del Reglamento de Cartografía Militar del Ejército de Tierra* (Rules and Basis for the Army's Ordnance Maps) approved by Order dated November 21st, 1968. The new cartography was projected under Universal Transversa Mercator (UTM) co-ordinates and Hayford ellipsoid and would enclose the following seven series:

SERIES	8C	4C	2C	C	L	5V	2V
SCALE	1:800.000	1:400.000	1:200.000	1:100.000	1:50.000	1:25.000	1:10.000
EQUIDISTANCE	400 m	200 m	100 m	40 m	20 m	10 m	5 m

Series 2C publishing was completed in 1971, Series 4C in 1972, and Series 8C in 1975.

In 1982 new computer-aided mapping production processes were started and they helped completing Series L in 1986, when they started a new Series, 5L, at a scale 1:250000 and 100-m equidistant. Series 5L and Series C were completed in 1993. As a result of the progressive implementation of NATO's *Geographic Policy*, once the ordnance maps were published, new series were started:

SERIES	1404	1501	M7814, P735, P713
SCALE	1:500.000	1:250.000	1:50.000
EQUIDISTANCE	Hypsometric tinting	100 m	20 m

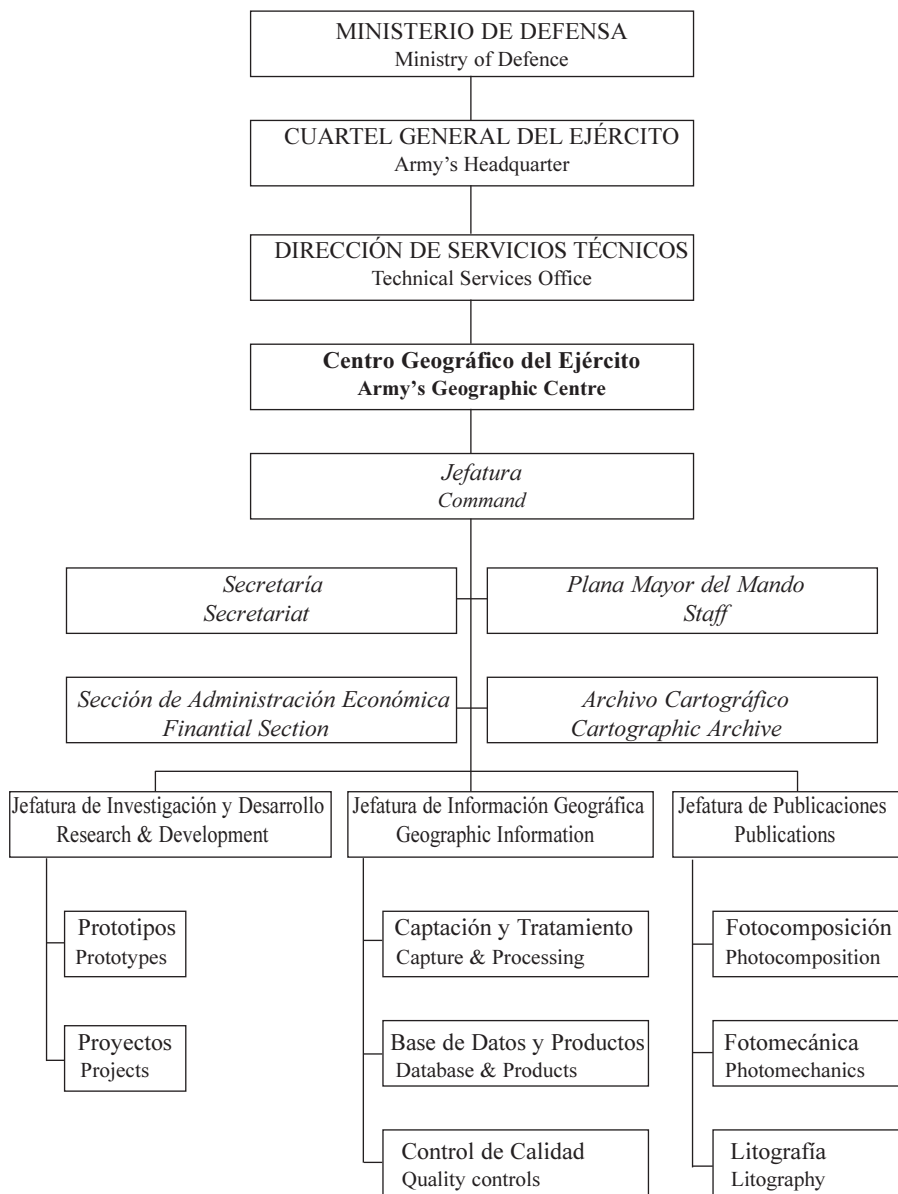
Series 1501 was completed in 1998 and Series 1404 was completed in 1999.

In 1998 the *Servicio Geográfico del Ejército* became the *Centro Geográfico del Ejército*. Since then, paper mapping is on a second level after digital mapping: they published the first version of *Carta Militar Digital de España* (Digital Military Chart of Spain), an application that combines several digital formats (raster, vector and matrix), a database of toponyms and a *geographic information system*.

In 2003 the *Unidad de Apoyo Geográfico* was created; it is a combination of personal and material means that offer in situ direct geographic information support, even map printing, to a large military unit.

3. ORGANIZATION AND FUNCTIONS

As an Armed Forces centre, the *Centro Geográfico del Ejército* has different functional and basic dependencies that could be complex to present. Its structure is summarised in the following chart (where over 400 people are included and from where the less geographically relevant sections had been removed).



The *Centro Geográfico del Ejército* is, within the Army, in charge of the operative, logistic, technical and training aspects related to Geodesy, Cartography and Military Publications. Therefore, its mission is to provide military users the geo-spatial information they need to plan and conduct military operations.

The Centre performs very different tasks such as:

- Preparing or generating, reproducing, storing and supplying the maps the Army is interested on.

- Treating and filing of aerial photography and satellite images into maps of Spain and other areas of interest.
- Obtaining geodetic and topographic information needed by military units.
- Maintenance of Bases de *Datos Geográficos* (Geographic Databases), with different grades of accuracy as already established, on Spain and other areas of interest.
- Keeping an archive of positives that may permit reproducing the maps published by the *Centro Geográfico del Ejército*.
- Keeping a map coherence within the Army, according to NATO's Geographic Policy.
- Cartographic researching in order to keep up with the most updated procedures in geo-spatial information generation and edition.
- Safekeeping cartographic historic funds.
- Taking part in the Spanish and international, civilian or military, geographic information commissions they are ordered to.
- Keeping function relations with the agencies that render similar services in other ministries, autonomous communities and other countries.
- Keeping a further scientific and technical education of its personnel to insure fulfilling the Centre and Army needs.

4. MAPPING STANDARDS

The adoption of *standardisation agreements* by geographic information producing institutions implies large economic and *interoperative* benefits. There are, since long time ago, institutions devoted to traditional mapping standardisation that, in the digital era, continue with their tasks. The *Digital Geographic Information Working Group* (DGIWG) is one of the most relevant of such bodies and the *Centro Geográfico* is one of its members. Since 1983 this Working Group prepares and updates the *Digital Geographic Information Exchange Standard* (DIGEST), among many other standards. At present they are working to integrate their standards with those of the *International Organisation for Standardisation*, in concrete the ISO TC 211 on geographic information.

Logically, the NATO is also making a large standardising effort on every aspect. The *Centro* takes part in the working group on geographic information that, traditionally, dealt with mapping on paper and nowadays is devoting to digital mapping standardisation. NATO's *Standardisation Agreements*, also known as *STANAGs*, define several formats available to share information among the nations members. Unfortunately, there is not an only standard for every data type (matrix, vector or raster) and there are several formats for every type.

Lastly, within the *Consejo Superior Geográfico* (Higher Council for Geography), of which the *Centro* is a member, intensive standardisation works are carried out. We want to point out, for its relevance, the efforts made to create an *Infraestructura Nacional de Datos Espaciales* in harmony with the Infrastructure for Spatial Information in Europe (INSPIRE).

5. MAPPING PRODUCTS

5.1 PRODUCTS ON PAPER

Ordnance mapping features UTM projection and UTM grid as required locating elements. Another relevant feature refers to the representation of roads and communication ways (and of any related elements such as kilometric milestones, gas stations, infrastructures and road width) due to their interest from the military point of view.

As these map series covered all the Spanish territory, they were welcomed when published. Time has passed and maps have not been updated (keep in mind that 8C, 4C & 2C series were published in late 1970s while C & 5L series appeared in early 1990s); therefore, ordnance mapping has turned obsolete. The aforementioned NATO map series, however, are fully updated and appear on paper and digital format.

The 1501 Series is made up by 42 sheets and covers all the Spanish territory. Its most relevant features are:

- Scale: 1:250000.
- Horizontal datum: World Geodetic System - 1984 (WGS-84).
- Vertical datum: Mean sea level.
- UTM Projection (28, 29, 30 & 31 zones).
- UTM Grid (Ten-Kilometres).
- Geographic grid numbered every 15 minutes and started every minute.
- Contour interval: 100 metres.
- Represented area: 2° of longitude and 1° of latitude (except special sheets).
- Hill-shading.
- Series number: according to a NATO standard.
- NATO symbols according to standard specifications.
- Two-languages (Spanish and English) legend.

The 1404 Series covers also the Spanish territory and is made up by 15 sheets. Its most relevant features are similar to 1501 Series features, except it is a *Lambert conformal conic map projection* and the area represented in each sheet is 4° of longitude and 2° of latitude (save special sheets).

The tasks to which the *Centro Geográfico* is mostly devoted are restitution, ground reviewing, preparing and data-base loading of geo-spatial information at the scale 1:50000, and it is publishing the traditional L Series, also known as M7814, P735 or P713 Series, in parallel to the Spanish Topographic Map at the same scale. Its main features are the same ones than in the 1501 Series, except the European Datum 1950 (ED-50), Hayford Ellipsoid and the area represented in each sheet (20 minutes of longitude and 10 minutes of latitude, except in special sheets).

Another ordnance mapping is that of military manoeuvre fields or installations at a scale 1:25000 or 1:10000.

Orthoimages are obtained from aerial and satellite photographs; they are *georeferenced and orthorectified* by using terrain elevation digital models. This information supplements maps when they exist; otherwise information is easily and speedily obtained on certain zones. Usually, these images are "informed" by over imposing vector-type data (toponymy, communications network, etc.) as well as other accessory data (grid, legend, margin information, etc.) to enhance and improve its reading through cartographic characteristics.

5.2 DIGITAL PRODUCTS

Digital mapping is classified in three large groups: vector, raster and matrix. Vector-type data basically help digital geographic information and geographic information systems to associate any geographic feature to a characteristic description, and to a spatial data organisation that allows making a whole range of consults on said feature.

The *Vector Product Format* (VPF) is a higher-level standard vector format used to define and develop vector products. VPF specification is controlled by EEUU and it is a DIGEST sub-set. The VPF is the basis for many vector product specification definitions, together with another DIGEST sub-set called *Feature and Attribute Coding Catalogue* (FACC), which is a coding list for geographic features and the corresponding associate information (*attributes*).

The *Vector Map Level 1* product (VMap-L1) is based on the standard VPF; it is an international multi-national project with a global density coverage equivalent to a scale 1:250000. It is made up by a total of 234 compact discs for as many world geographic areas, called libraries. The starting information (paper maps at a scale 1:250000)'s density, accuracy and updates are mirrored on digital data.

Data are organised in ten topic layers called covers: boundaries, elevation, hydrography, physiography, population, transportation, infrastructures, vegetation and data quality. It makes use of geographic co-ordinate system; its horizontal datum is WGS-84 and its vertical datum is mean sea level. Covers can be viewed one by one or superimposed, at the user's decision. Inner organisation of components spatial geometry in each cover is topological, and each component can be related to its surroundings in a *spatial analysis*.

All data include *header information or metadata*, with general information such as creation date, map source, estimated accuracy, maker, digital methods, etc.

The *Centro Geográfico del Ejército* collaborates in this project and is preparing the following data libraries:

- Library 083: The Iberian Peninsula, Balearic, the Azores and Madeira Islands.
- Library 119: The Canary Islands and Western Sahara.
- Library 120: Parts of Mauritania, Morocco and Algeria.

The Vector Geographic Data Base-Level 2 is made up of vector-type geographic information, at a scale 1:50000, stored and organised in a "continuous map" under the structure and criteria of a *Geographic Information System* (GIS).

The Database managing system is *relational*; geo-spatial data and feature *attributes* and toponyms are stored in *tables*. The Database is the source for any printed material and GIS applications; it generates the mapping sets needed for the *Carta Digital*.

Among the raster-type products we find many easily obtained commercial and standard formats that satisfy many applications.

The paper-supported information of many ordnance map series, of foreign maps and of satellite images is found in different commercial formats and in the most popular compression systems: TIFF, JPEG, BMP, GeoTIFF, etc.

The TIFF- standard-based GeoTIFF format is widely used to store raster-type images and information. It is adapted to fill geo-spatial information requisites to locate data and it transforms "gross" information into "metric" information to be superimposed with information from other sources.

To fulfil the requisites of some GIS applications, such as the *Carta Digital*, the information is merged and homogenised in "mosaics"; the information taken from maps or from aerial or satellite photographs covers the areas of interest in a continuous manner and at different scales.

Finally, among matrix products, there are the terrain elevation digital models (MDT), with different densities and formats, as required by a wide range of applications and users.

These models are obtained from the tridimensional digital altimetric information, shaped in contour lines, bench marks and hydrographic data, obtained from a properly densified *photogrammetric restitution* at the scale 1:50000. After a review, edition and correction of data, an *irregular triangular model* is obtained; it includes all the vertices of said components. Once it is validated by interpolating algorithms, the basic regular grid model is obtained. It is an UTM projection, ED-50 reference system, with 25 m of interval (grid density) and organised in cells of 25 Km per 25 Km, called MDT25. Each cell is checked on the next ones to achieve a full cover with no discontinuities or jumps.

From these basic data, other lower-density models called MDT50 and MDT100 are obtained through interpolating procedures. Nowadays, the MDT10 model, with a grid interval of 10 m is obtained from recent altimetric data.

The *Digital Terrain Elevation Data* (DTED) format, Level 1 & 2, came from EEUU and the STANAG 3809 adopted it to distribute terrain elevation data. At first, the goal of Level 1 was to make radar simulation in airship cabins easier; but nowadays it is widely used as middle-resolution and wide-cover terrain data. The specification covers both levels with an interval of 100 and 30 m, approximately. This kind of data requires special reading and viewing software.

Level 1 cover is really wide; for Spain, information on all the nation territory is available. International bilateral agreements make possible acceding to data available in other parts of the world. Level 2 cover is much more limited; however, Spanish data are also available.

Both levels use the WGS-84 reference system as geographic co-ordinates. Grid interval is in arch seconds and it increases with latitude; it is equivalent to 100 and 30 m, depending on the level, on surface. In level 1, grid interval on Spanish territory is 3 seconds, and in level 2, it is 1 second. The information is shaped in *cells* of 1° of latitude and 1° of longitude.

6. GEOGRAPHIC INFORMATION PRODUCTION FLOW

The geographic information generated is that of a Series L map, at a scale 1:50000. The production flow starts with an order referred to a sheet of said series. Said order is embodied by the physical creation of a *File Folder* and of a *Map-holder* tube for each order and by forwarding them to the *Departamento de Captación y Tratamiento* to start the process.

The initial photogrammetric flight, at a scale 1:40000, is made by the *Centro Cartográfico y Fotográfico del Ejército del Aire* (Air Force Mapping and Photographic Agency); the *Plan Cartográfico de las Fuerzas Armadas* (Armed Forces Mapping Plan) establishes the work to be done and thus the sheets to be restituted one year are always flown the year before. For this scale, they make use of a 152-mm wide-angle lens and

they fly at 6000 meters over the ground. To cover the surface translated into any sheet (with the lateral and transverse covers), the plane has to make 3 passes and 9 expositions in each pass. They get, therefore, 24 stereoscopic pairs.

To obtain 4 to 6 control points for each pair would be a time and money consuming task. Therefore, control is achieved through *aerotriangulation*; it starts from the co-ordinates of 14 points at pass beginning, of 7 points in the middle of the pass and of other 14 points at pass end. Said co-ordinates are taken through any of classical topographic techniques or through *Global Positioning System* (GPS) technology.

As a result of field control and of table aerotriangulation, the co-ordinates needed to orientate each pair in the stereoscopic model are found. Through analytical restitutors, aided by a specific *software* called *DIGI*, the information tridimensional *digital catch* is achieved in files called ".bin". Later on, results are verified and any possible defects or mistakes are detected and corrected.

The information obtained is not complete and it must be revised on the ground. The revision can be more or less careful, depending on the field information we want to obtain; but the shallowest revision of most important geographic features (communications, public works, reference points, etc.) and the collection of toponyms for most relevant places will take at least 1 day per every 8000 or 9000 hectares.

Once the information from field and documentary sources is loaded in files, files are separated in four layers (*toponymy*, *altimetry*, *planimetry*, and *reservoirs*) to be depurated and to validate both their components inner geometry and their relative location, through analytic detection and correction of mistakes such as cuts in contour lines, area components that are not closed, etc. This is the geometric validation and correction stage.

Then, files are translated into *Access of Geomedia* and the topological validation and attribution is carried out; information is turned into ".mdb" files. Topological (loops, going-and-back points, sharp turns, features that do not reach to, features that go beyond, etc.) and toponymy mistakes are looked through and corrected if necessary. Then the sheet is turned into the *Departamento de Base de Datos y Productos*.

There, after a quality assurance test, the information is loaded into a Data Base, or the sheet will be printed on paper as follows. First of all, Geomedia files are translated into the *MicroStation* format that produces separate altimetry, planimetry and toponymy ".dgn" files. It is a "spaghetti-type" format (with no topological structure) and components are stored *sequentially*. Every record contains the defining vertices co-ordinates, the identity code (according to the series *dictionary*) and its *symbols* (level, colour, line width and type, or point-symbol name).

In this stage, the information is modified to print it at the appropriate scale: if necessary, features are removed, moved or modified. At the end, the different files (planimetry, altimetry, shading, frame and marginal information) obtained are rasterised (turned into raster-format files of standard compressed *bits* maps, called ".rle") and they supply the different characteristics for each feature from the editing point of view (line styles, colours, reserves, etc.).

Then, through the *MapPublisher* application, five TIFF-format files are created in 2400 points per inch: four of these files are for the colours (cyan, magenta, yellow and black) that make-up the colour basis and the fifth file is the positive of the *sienna colour*, that gives a better quality to altimetry. With these files, the *Jefatura de Publicaciones* is to produce the photoliths from which the sheet will be printed at the lithographic workshops.

7. CARTA DIGITAL MILITAR

The *Carta Digital Militar* application is classified as a Geographic Information System. It is a management and exploitation system of digital geo-referenced geographic data that presents a real world behaviour and a descriptive model, framed spatially within a geodesic-cartographic reference system for a specific territory. Its object is to view the area and its analysis in order to answer certain military needs.

The system handles basic digital geographic information, by converting it to the *native* application formats, that provide a better performance and speed when handling data, instead of reading from the original or any other standard formats. It has importing modes both for NATO standard formats and for most used trading formats; data, however, are always geo-referenced and their headers store the information needed to accurately locate them within a certain geographic reference system. Native files extension nomenclature, depending on their nature, is as follows:

- Raster. ".fre" files. Its appearance is very similar to traditional mapping, when they are data from different mapping series. They are also used to store relief viewings from digital terrain elevation models data.
- Image. They are also stored in ".fre" files. They store data from aerial and satellite photographs.
- Vector. They are stored in ".svc" files. They keep schematic information from digitalising any existing raster cartography by topic layers.
- Matrix. They are stored in ".geo" files; they are digital terrain elevation models.
- Toponymy. Information is organised in databases and is stored in ".dbf" files; their indexes (in ".mdx" files) allow consults and locating toponyms and their associate descriptions.

Besides the above basic data stored in separate files, the system allows working with groups of said data for a concrete geographic area, to make easier their management and control as well as their loading by blocks. Said groupings are:

- Vector group. The definition is stored in ".ini" or ".svg" files; groups are in ".vec" files and they enclose every vector topic coverage, both of features and of toponyms, at a concrete scale. Another advantage is data viewing characteristics can be defined from the same form, and not from each topic layer.
- Mapping set. Definitions are stored in ".ini" files. Their goal is to organise and structure any information kind and scale in relation to a concrete geographical area. Access to information and its management is fast and easy. Other useful accessory data, such as definitions of co-ordinate systems, reference files for previous location surfing, toponymy databases, etc. are also stored in the same file.

Another manner to access geographic information is the following:

- VPF. As already remarked, it is a standard vector data product; it is a descriptive information of geographic features. The system gets directly to the information with no previous conversion.
- Status archives. They are application storing archives; they save configuration and present status in a concrete time; they can be opened later on without having to redefining parameters or viewed data.

8. UNIDAD DE APOYO GEOGRÁFICO

Due to the new concept of Armed Forces and their larger capacity, Spanish military units are often deployed abroad. In these cases, providing topographic and mapping material from the *Centro Geográfico*'s headquarters is not enough, so it was decided to speed up said support by providing it *in situ*. Thus, the *Unidad de Apoyo Geográfico* (Unit for Geographic Support) was recently created and its mission is to supply, within the appropriate time, geo-spatial information on the target area.

It is, basically, made-up by several *shelters* or booths mounted on heavy trucks and equipped with different material according to their functions: work-stations, *scanners*, *plotters* and, even, an *off set* printer.

The Unidad de Apoyo Geográfico generates five different classes of products:

- *Briefing Maps*: such as Administrative Maps (frontiers, administrative boundaries, etc.), Ethnic Distribution Maps, Responsibility Areas Maps, Health and Social Services Maps, etc.

- Terrain Elevation Maps: They need a digital terrain elevation model and their goal is to supply a clear view of the area's orography. They are Slope Maps, Hypsometric Maps and Shaded-relief Maps. Usually Hypsometric and Shaded-relief Maps are used as background for other more detailed maps.

- Soil Composition and Vegetation Maps: in general, these maps are used to delimitate zones in combination with the corresponding digital terrain elevation models; they provide information on visibility, movement capacity, etc.

- Image Maps: They are based on images of any kind, on which raster and vector data are mounted to complete the information needed.

- Analysis Maps: They are special-purpose maps that require consulting geographic data base through GIS analytical tools; enquiries are based on attributes of each geographic feature. Examples are: roads wider or narrower than ...; roads with more or less than *n* lanes; railways with a gage of...; militar, civil, international airports, etc.; populations with more or less than ... inhabitants; influencing zones at a distance *n* from a concrete feature, etc.

9. CONCLUSIONS

The *Depósito de la Guerra*, the *Servicio Geográfico y Cartográfico*, the *Centro Geográfico del Ejército* ... has gone through many occurrences in time and has overcome many stages: land survey, terrestrial photogrammy, aerial photogrammetry, images correlation ... always at the service of cartography and of the Armed Forces, but also at the service of Society and its institutions.

Nowadays, the *Centro Geográfico del Ejército* is making great efforts in maintaining a Data Base with geo-spatial information in different formats, at different accuracy levels on the Spanish territory, in order to provide military users needs. The generated products are several, but there is no doubt the most demanded product is geographic information in any digital format.

Although it has limited capacities and means, the *Centro Geográfico* wants to adapt itself to most recent technologies, and they implement most updated methods, formats and software. They are reaching towards an international geographic information community where the same language is spoken.

GEOGRAPHY AT THE *CONSEJO SUPERIOR DE* *INVESTIGACIONES CIENTÍFICAS* (HIGHER COUNCIL FOR SCIENTIFIC RESEARCH)

MARÍA ISABEL BODEGA FERNÁNDEZ
MARÍA ASUNCIÓN MARTÍN LOU

INTRODUCTION

Twelve years have gone by since the *Comité Español de la Unión Geográfica Internacional* (Spanish Committee of the International Geographic Union) presented a global panorama of Spanish Geography at the 27th Congress, celebrated in Washington in 1992.

In this text, dedicated to Geography at the *Consejo Superior de Investigaciones Científicas* (CSIC, Higher Council for Scientific Research), we want to expose the evolution of the presence of our discipline in this public research entity. To do so, we will establish two well-defined stages, past and present, from 1940 to the current moment, 2004, and we will finish with a reflection about the future based on our experience, result of almost four decades of geographic research at the CSIC.

PAST: 1940-1986.

As stated in the above mentioned contribution of Spanish Geography, geographic research was started at the CSIC right after the constitution of this entity in 1940. Its beginning was very promising.

At the same time as numerous institutes were created, the Institute "Juan Sebastián Elcano" was constituted with the aim of developing geographic research. Mr. Amando Melón y Ruiz de Gordejuela, its first director, knew how to bring together all Spanish geographers in this Institute.

Until then, the Royal Geographic Society, founded in 1876 as a Public Use Entity, had been one of the pioneer institutions in its dedication to geographic study, development, diffusion and research. Furthermore, Geography was traditionally handled either as a teaching matter within established education or as a specific matter in the cartographic production of different institutions dedicated to it, like, for example, the National

Geographic Institute.

The constant increase in the number of students since the beginning of the 1960's, not only in secondary, but also in university education, motivated the consequent increase in the number of Geography teachers, who, at the same time, promoted geographic research. Some of these teachers actively participated in the projects carried out since its beginning by the *Instituto Juan Sebastián Elcano*.

The incorporation of new methods in the development of studies of Geography and the orientation of the discipline towards Applied Geography, first initiated within the degree of "**Filosofía y Letras**" (Humanities) of the University of Zaragoza, led to the transformation of the Department of Applied Geography at the *Instituto Juan Sebastián Elcano* in a new Institute at the CSIC, the "Institute for Applied Geography", in 1967.

This way, by the end of the 1980's, Geography was represented at the CSIC by two research institutes, the Institute "Juan Sebastián Elcano", which belonged to the *Patronato Saavedra Fajardo* (Saavedra Fajardo Trust), and the Institute for Applied Geography, which belonged to the *Patronato Alonso de Herrera* (Alonso de Herrera Trust). The scientific fields in which they were included, within the structure and organisation of the CSIC in those times, Arts and Science, respectively, responded more to a temporary classification than to its specific dedication.

Professors Manuel de Terán Álvarez and José Manuel Casas Torres carried out their professions in these two institutes with a very productive and prestigious scientific life. They were responsible for the development of Spanish Geography and, in both institutes, plentiful doctoral thesis were done and published which were an example of research quality, as well as many other publications from other geographers: Llovet, Cabo, Vilá, García Fernández, López Gómez (Antonio and Julia), Floristán, Bosque, García Manrique, Sanz García, Miralbés, Higuera, Estébanez... and many others who were responsible for the Geography of this period.

During this time, two journals were published with two different trends: "Estudios Geográficos" and "Geographica".

Since the beginning of the Instituto Elcano (in 1940), the journal "Estudios Geográficos" played a very important role in Spanish Geography. Its pages gathered the contributions of Spanish geographers who, day after day, contributed essentially to the development of this discipline. During this period "*... the quality of the work contained in Estudios Geográficos is very high and has been essential for the scientific enrichment of National Geography and the qualitative progress managed throughout the almost fifty years past since its beginning, being an essential journal in our Geography, the most mentioned one amongst those published in Spanish language, and has a prestigious position among the international ones, as stated by Chauncy D. Harris in his studies. Numerous articles published in Estudios Geográficos have motivated researchers and its diffusion has led to an essential knowledge in the development of our science in Spain. Rigor, ability for critic and good management of resources are some of the characteristics of most of the thousands of pages which have appeared in the pages of the published volumes during this period*". These lines, published by the press board of the magazine, explained its scientific trend until its fusion with "Geographica".

Since 1954 the Department of Applied Geography of the Instituto Elcano edited "Geographica". In its first number, published in April of that same year, its director defined it as "*an information journal for the teaching world dedicated exclusively to*

Geography...". As it was announced in this introduction, the journal was not going to include research articles, at least not regularly, as these were left for "Estudios Geográficos".

"Geographica" was published for ten years and was very closely related to the Department of Geography of the University of Zaragoza.

In 1971 the magazine reaches a second stage with the aim of *"...making the work done at the Institute for Applied Geography known and willing to include as much information as possible in Spanish language from the increasing number of publications about Applied Geography, regional development, territorial organisation and Geography of Spain"*.

This way, in 1986, the CSIC included in its organisational structure two institutes with its headquarters in Madrid and two journals specialised in Geography.

PRESENT: 1986-2004

In 1986, the directors of the CSIC, attending to "scale economy" reasons which could improve the adjustment of the existing resources at that time to the natural increase of scientific research, decided to unify the Institutes which dealt with Social Sciences.

Economics, Sociology and Geography, disciplines which up to then were studied in five different institutes, were unified to form only one: the Institute for Applied Economics and Geography. Some years later (in 1996) it also incorporated the Institute of Demography and after several denominations it reaches 2004, when we are writing this article, with the name of *"Instituto de Economía y Geografía"* (Institute of Economics and Geography). In its present organisation, both Institutes which since 1940 and 1967 carried out geographic research at the CSIC, work united in the mentioned Institute, in the Department of Geography.

Likewise, the guidelines of the Entity demanded the fusion of both geographic journals. The title of the oldest one was kept and has been continuously published for sixty-four years now. Its undeniable degree of scientific quality is still preserved in its four yearly numbers.

In the above described stage, the number of CSIC tenured Geography researchers grew slowly but steadily. At the same time, the collaboration with the Geography Departments of the universities of Spain was very strong, and very fruitful from a scientific point of view. Besides, it was common to find scholars and people preparing entrance exams for the civil service in the excellent libraries in these institutes.

The fusion of 1986 led, in the first place, to a much more rigid administrative structure than that of the previous stage and, as a consequence, from that moment, collaboration with the university has been increasingly difficult at an institutional level, although it has been maintained at a personal one.

In the second place, the assignment of posts is also more difficult, as Geography has to compete with other disciplines from the areas of Humanities and Social Science in the allocation of resources.

Although it is true that the number of geographers is now higher than that of the Department of Geography right after unification took place, many geographers who

were initiated in the profession with scholarships or elaborating a doctoral thesis at the CSIC were lost and finally abandoned research in this entity due to the lack of a steady working offer and went to the university, which did offer steady contracts.

The department currently has twelve researchers, eleven geographers and one geologist, as well as a total of 27 members who are research support technicians, pre- and postdoctoral scholars and employed staff.

The four following research lines have consolidated during these eighteen years, which include basic, conceptual and methodological research, paying special attention both to the applied dimension and to the use of new technologies:

- Ageing of the population
- Migratory processes
- Territorial studies and use of new geographic information technologies
- Rural changes and environmental-friendly processes in agriculture

The first mentioned line of research, ageing of the population, developed by the group with the same name, was started at the end of the 1980's parting from the study about the ageing of the Spanish population as a phenomenon to consider, of concern for social scientists.

Its dimension was first proved by the research project about "Ageing in Spain: process, structure and implications". The group of researchers who since then work in this line, have successfully contributed to the creation of a wide curriculum and the promotion of other research lines involved in the process: health, disabled people, retirement pensions, public expenditure, residential strategies, intern migration, quality of life, etc.

The second line of research is dedicated to the study of contemporary migration processes, paying special attention to immigration in Spain from the 1960's until now, specialising in the study of its spatial distribution, origin according to nationality, demographic composition and working situation, among other.

The main aims of the researchers who work in this line are the study of migration as a useful tool to control demographic unbalances and to consolidate a non-exclusive, flexible, dynamic working market, as well as the analysis of the effect of the concentration of migrants and their activities in Spanish cities.

The third line continues the research done about applied geography in the institute with the same name and is centred in the geographical analysis of different territories at local, regional, national and macro-regional scales, using New Information Technologies, Geographic Information Systems, Remote Sensing and Thematic Cartography.

The integration of physical and natural matters, the social and economic analysis of environment, the application of methodological proposals or rules from the Common Agricultural Policy or International conferences about Sustainable Development are the basis for the scientific aims of this line of work, as is the case of the elaboration of the Agenda 21 or Regulation Plans of Natural Resources.

All these lines of research are developed through projects from different public calls or agreements with public or private institutions.

FINAL REFLECTION

In the past years, Geography, after a specialisation process, seems to need other disciplines to have its proper identity and be respected professionally. Currently, the Geography degree has even disappeared in some universities (Alcalá de Henares, for example) and a change in the tentative name of the degree is being tried, from graduate in "Geography" to graduate in "Geography and Regional Planning".

At the same time, in secondary education, our discipline is marginally treated within a much more global denomination, "social science".

At the CSIC, Geography seems to have become a "relic" in Humanities and Social Science, although it has been very significant by itself in two different institutes during almost fifty years.

In a society in which Geography, in the most universal sense of the term, is present day after day in mass media, diffusion of cultures and knowledge about different territories or folk (be as far away as they may), the identity of this academic discipline should not be lost, the same as it does not need other disciplines to develop and to be useful to the current society, especially when in Spain there are centenary institutions dedicated to the subject and, even more, when the professional association of geographers has been created.

What is the future of Geography at the CSIC?

If the current trend continues, it is easy that Geography disappears as such from the organisational structure of this Institution. After almost fifty years of being the scientific aim of two research institutes, it became a single department, eighteen years ago. Currently, the tendency of giving it original denominations may lead to the disappearance of the term "Geography" in favour of more restrictive names.

This situation though could be enhanced if the administrators of the scientific policies realize the basic role of geography as a discipline and therefore fuel its R&D projects willingly.

Nevertheless, the geographers at CSIC, at least the authors of this text, think that our daily work shall continue developing the essential basis of Geography and applying them to the problems of the current society.

THE SPANISH “*REAL SOCIEDAD GEOGRÁFICA*” 125 YEARS OF HISTORY

JOAQUÍN BOSQUE MAUREL

At the end of the 15th century, Columbus' voyages started a new stage in the History of Mankind. Since that date, the discovery of new lands and their occupation and settlement by Europe turned into the only way to enlarge Earth's geographical knowledge. This enlargement of our world is still present but it is not viewed in the same manner. In the 17th century, new scientific methods for Man reasoning and understanding and the usage Man made of the Earth, together with the appearance, at the end of the following century, of the Industrial Revolution and its economic and social consequences, in short, of Capitalism, gave place to a search for new systems to study and understand Man and the Earth. The Geographical Societies, at the beginning of the 19th century, were one of these systems and they, supported by the increasingly growing bourgeoisie, by industrial development and modern State's needs and requirements, helped penetrating the interior parts of the continents and, especially, helped Africa's occupation and division among the European powers. This was the case of the *Société Géographique de Paris* (1821), the *Gesellschaft für Erdkunde zu Berlin* (1828) and the *Royal Geographical Society of London* (1830), a heir to the activities and enterprises of the *African Association for Promoting the Discovery of the Interior Parts of Africa* founded in 1788. All these societies were born in the spirit of the Illustration and developed within Romanticism.

1. THE *SOCIEDAD GEOGRÁFICA DE MADRID*

A similar body was incorporated in Spain, along this same line, but much later in time. On February 2nd, 1876 the *Sociedad Geográfica de Madrid* was created in a ceremony held in the *Real Academia de la Historia* chaired by Mr. Francisco de Borja Queipo de Llano, the highest representative of said Academy and the Minister of Works in the first government presided by Antonio Cánovas del Castillo in the newly-born reign of Alfonso XII. 205 people attended to the ceremony, most of them relevant Men of Sciences and Letters that resided in Madrid. The geographer and cartographer, Francisco Coello de Portugal, who had participated in some of the Geographic Conferences held

in Brussels (1871) and Paris (1975), the engineer and archeologist, Eduardo Saavedra, and the historian, Joaquín Maldonado Macanaz, had promoted the act in a circular letter (J. Vilá Valentí, 1978 and R. Ezquerro, 1986).

In the act held on February 2nd, after Francisco Coello's opening speech that referred to the fruitful labour done by the already incorporated Societies in Europe and America, it was resolved to create the then-called *Sociedad Geográfica de Madrid*. The Board of Directors of this new entity met for the first time on March 27th, 1876; Mr. Fermín Caballero, the first professor of Geography (1833) in the just created *Universidad Central de Madrid* (formerly in Alcalá de Henares), and a former Minister of Public Instruction, was elected President of the society. At his death on December of that year, Mr. Francisco Coello was appointed temporarily to the position, and elected to it in 1889 and 1898. Among the successive presidents until 1902, when the Sociedad became the *Real Sociedad Geográfica*, there were very relevant social and political personalities such as Navy General Joaquín Gutiérrez de Rubalcaya (1878-1879), the politician and minister Antonio Canovas del Castillo (1879-1881), the engineer and archeologist Eduardo Saavedra (1881-1883), General Ángel Rodríguez de Quijano y Arroquia (1883-1885), Segismundo Moret Prendergast (1885-1887), who like Cánovas was President of the Government during the Restoration period, Francisco de Borja Queipo de Llano (1887-1899), the ministry of Works when the Society was incorporated, and the Navy historian Cesáreo Fernández Duro (1899-1908).

In that first Board of Directors and among the Society's 653 members, there were very few professional geographers and just a handful of University Geography professors, due to the small role played by the discipline in the Spanish university. Out of the 35 directors of that first Board, Mr. Manuel M^a del Valle, a full professor of Historical Geography in the Universidad Central, was the only geographer. The presence of geographers increased with time, and geographers have held mainly the post of Life Secretary created in 1881. It was held at first by the cartographer Martín Ferreiro y Peralta until 1896, afterwards the post was held by well-known geographers such as Rafael Torres Campo (1896-1904), a Professor of the *Institución Libre de Enseñanza*, and Ricardo Beltrán y Rózpide (1904-1928), the founder and a relevant member of the *Escuela Superior del Magisterio* (R. Ezquerro, 1986 and J.A. Rodríguez Esteban, 1996).

On the other hand, cartographers were very numerous; the most important ones are, with Coello, Carlos Ibáñez de Ibero, the founder and first director of the *Instituto Geográfico y Estadístico*, and Martín Ferreiro, of the *Depósito Hidrográfico*. Other members were well-known geologists such as Federico Botella, Manuel Fernández de Castro and José Macpherson, some relevant civil engineers, Carlos M^a de Castro, the author of Madrid's Urban Development Project, and Eduardo Saavedra, a famous archeologist and Roman roads scholar, and prestigious historians such as José Gómez de Arteche, Aureliano Fernández Guerra, Cesáreo Fernández Duro and Pascual de Gayangos, and many writers and essay-writers, Pedro Antonio de Alarcón, Eusebio Blasco, Joaquín Costa, José Echegaray, Gaspar Núñez de Arce and Juan Valera, as well as some painters and artists, Luis de Madrazo, Francisco Sans, the director of the *Museo del Prado*, the sculptor Ponciano Ponzano, and the architect Eduardo Torroja, the father of the Torroja lineage, so linked to the story of this Society.

The largest member group – 164 out of a membership of 653 – was related to the Army and the Navy, with a well-defined scientific interest in most cases. They often

held relevant positions in the Board of Directors; in fact, besides Francisco Coello, a cartographer and Army engineer, other Presidents were Ángel Rodríguez de Quijano y Arroquia (1883-1885), also from the Engineer Corps, the sailor and historian Cesáreo Fernández Duro (1899-1908), and in the already-called *Real Sociedad Geográfica* (1902), Julián Suárez Inclán (1908-1909), a Staff General, Commander Víctor Concas y Palau (1909) and Admiral Marcelo de Azcárraga (1909-1913). They started a tradition recovered in 1939 after a long hiatus began after the First World War, that did not shut out however an always numerous army and navy membership (R. Ezquerro, 1986). It seems that the Society's colonist interest justified such a strong military participation (M. Alonso Baquer, 2003).

From the beginning, the Society has had as its main spokesman and publishing means a journal, *Boletín*, first published in 1876 and continuously published, save for the three years of the Spanish Civil War, up to today. The *Boletín* means a total of 138 books where the most relevant geographers, historians and scientists of each period left their signature: Antonio Cánovas del Castillo, Joaquín Costa, Lucas Mallada, Ricardo Beltrán y Rózpide, Julio Suárez Inclán, up to the early 1900s; afterwards, José Gavira, Francisco Vázquez Maure, Adela Gil Crespo, Juan Vilá, Rafael Puyol Antolín, José Estébanez, Manuel Valenzuela. During the first decades, the *Boletín* was published at the same time as the journal of the *Sociedad de Geografía Comercial* (1885), the *Revista de Geografía Colonial y Mercantil*, that soon (1896) was to be integrated into the *Boletín* although both journals were to be published separately until 1924.

Among the Society's activities in its first decades we have to point out its interest on Spanish colonial presence and on better understanding and knowing Spain's regional area, mainly Northern Africa and the Gulf of Guinea, where Spanish influence dated from the 18th century and was still strong. We have to remember that when the *Sociedad Geográfica de Madrid* was created, Europe's expansion over Africa was at its highest and that, in general, the 19th-century-born European Geographical Societies evolved in a political and ideological context aiming to the occupation of Africa and Asia by the great European powers.

Thus, the Society welcomed land discovering and penetrating actions planned and sponsored by Spaniards, and always supported by King Alfonso XII, who applauded the *Sociedad Geográfica's* foundation and who, on the line of other European monarchs, Leopold II of Belgium, for instance, sponsored in 1876 the incorporation of the *Asociación Española para la Exploración de Africa* and became its Honorary President, while Francisco Coello was its Vice-President. In 1876, Francisco Coello in his opening speech had pointed out as possible objectives for the Society: the exploitation and extension of Spanish trade to Southern Morocco, from cape Juby to cape Bojador; the re-establishment and expansion of the 15th-century-old fishing grounds of Santa Cruz de la Mar Pequeña, and the opening of a new colonial area in Africa, similar to the colonial areas of other European nations, while the scientific understanding and knowledge of the area and promotion of European civilization on the explored countries were to continue on. Said goals were confirmed by Joaquín Costa in 1883 in the *I Congreso Colonial y Mercantil* (First Colonial and Trading Congress) when he stressed that the Society is to have the exploration and colonization of Northern Africa as its basic object "or Spain's future will be compromised" (J. Velarde, 1983).

Explorations carried out by members of the Society and/or referred to in its records

and publications started, before 1876, with the expeditions by José M^a de Murga (1827-1876) and Joaquín Gatell y Folch (1826-1879), better known by its Arabian names of "Hach Mamad Bagdady" and "Kaid Ismael", respectively. Their descriptions and accounts of their voyages in Morocco and Argel (in 1853-1867 the former and in 1861-1865 and 1868-1869 the latter) at the Society's meetings were presented by Coello and Fernández Duro, and appeared mentioned and/or published in the *Boletín* and in the *Revista de Geografía Comercial*: "El Hach Mohamed el Bagdady y sus andanzas en Marruecos" by C. Fernández Duro (1877), and "Diario de la Expedición contra los Beni Asan y los Rahamena" (1876) by Gatell, besides two interesting papers by the expeditionaries published in the *Boletín* in 1877 (J. Gavira, 1947).

Manuel de Iradier y Bulf (1854-1911) made several renowned travels to the Gulf of Guinea. Born in Vitoria, the 18-year-old Manuel met Henry M. Stanley, Livingstone's journalist, in an encounter that changed his life and founded the *Asociación Eúskara "La exploradora"*. In 1875 he travelled to Fernando Poo, to be occupied with the islands of Elobey and Annobon by Spain in 1778; he remained in the area and travelled around the islands and the continental area of the Muni River till 1877. He started then his relations with the *Sociedad Geográfica* and the *Asociación de Africanistas*, and was resolutely supported in his decision to go back to the Gulf of Guinea and to re-start his African expeditions to defend Spanish domain on the Muni River (1884-1886).

A similar renown had the efforts and endeavours of Emilio Bonelli Hernando (1855-1926) that led to a deep understanding of Western Sahara and to the addition of that land to the Spanish domain in 1884, when Bonelli, an infantry commander at the head of a Spanish detachment, took possession of the (Dahla-es-saharia) Oro River peninsula, on the place where Villa Cisneros was soon to be founded. The action was started in 1882 and completed in 1886 and was enthusiastically supported by the *Asociación Africanista* and the *Sociedad Geográfica*, and he extended it with an expedition to the continental area of Guinea (1887-1890) sponsored by the marquiss of Comillas and carried out in collaboration with another Africanist Enrique d'Almonte, also member of the *Sociedad Geográfica*. In the Society he held relevant positions in the Board, pronounced several conferences on Sahara and Guinea published in the *Boletín* and was its representative at several Spanish-Moroccan Congresses held in 1907 (Madrid), 1908 (Zaragoza), in 1909 (Valencia) and 1910 (Madrid) (M. Alonso Baquer, 2003).

To these travellers and explorers we can add other people, who were also members and were supported by the Society, such as José Valero y Belenguer (1854-1894), who travelled through the North of Africa; Juan Víctor Abargués de Sostén (1845-1920), an expert in Egypt and Abyssinia who travelled to those countries in 1879 (R. Núñez de las Cuevas, 2003), Adolfo Rivadeneyra, maybe the first Spaniard to travel and to describe the 19th-century Persia, and Enrique d'Almonte (1859-1917), who travelled through the Phillipines islands in 1888 and 1897, collaborated with Bonelli in the Sahara, and studied the continental Guinea in 1906 and the Western Sahara again in 1911, and died at the beginning of a travel to the Red Sea and became a "present elective member as he has died while serving the Geographical science" (Real Sociedad Geográfica, 1876-1999). And many names of other contemporanean or later explorers can be added (F. de las Barras y Aragón, 1952 and J. M^a Bonelli Rubio, 1975).

We have to keep in mind that the Society was created in the difficult and hazardous time of the Spanish 19th century and that it developed in the last decades of 1800, during

the war tension of Cuba and the Philippines that peaked at the "Disaster of 1898". The Society held academic debates and discussions on the past, present day and future of Spain, that were the basis for a probably simplistic Spanish and regionalistic nation-ideology and turned into a demand for a political and economic regeneration that would take Spain out of its regretful and acute depression. To fulfil these goals, it was needed a deep understanding of Spain's social and economic reality as well as a complete awareness of the identity and consciousness of Spain as a whole and of each one of its regions. They needed to understand the natural and human possibilities of the countries to be explored and colonized but also the political and social-economic competence of the colonizers.

Thus, many studies were devoted to the objective and scientific study of past and present land and life in Spain, to the analysis of national problems and to the search for a better agreement with the world and, above all, with Hispano-America. In this sense, the Society kept a strong link with the *Institución Libre de la Enseñanza*, and many of its members – Joaquín Costa, Gonzalo de Reparaz, Rafael Torres Campos – attended the Society's geographical and institutional activities. It was at this moment when the Spanish Geography became a "discipline for strategies" and "a Staff server" (Y. Lacoste, 1976).

In this aspect, the Society prepared and sponsored several Congresses and Meetings in the last two decades of 1800. In 1883 they held the *I Congreso Español de Geografía Colonial y Mercantil* (Spanish Colonial and Trading Geography Congress), at the request of Joaquín Costa, and in the closing session a harsh discussion on Spain's colonial future confronted the then President of Government, Antonio Cánovas del Castillo, an advocate for the existing "status quo" – he said that "the so little advantageous state of our nation (make your) plans for conquest (impossible and chimerical)" –, and Joaquín Costa, who advocated for a strong economic intervention with population in the North of Africa (J. Velarde, 1983).

This Congress generated the seed of the Spanish policy in Africa, America and Asia and the incorporation, within the *Sociedad Geográfica*, of the "*Compañía Española del Golfo de Guinea*", a corporation devoted to promote the colonization of Guinean land. Its failure led to the foundation in 1883 of the *Sociedad Española de Africanistas y Colonistas*, turned in 1885 into the *Sociedad de Geografía Comercial*. It was practically directed by Joaquín Costa although it was included within the *Sociedad Geográfica de Madrid* until the Society assimilated it in 1896. The Congress, however, did not make mention of the Spanish American nations, that were in full cry of independence (J. Sanz García, 1986).

Another relevant and basically Americanist meeting was the *Congreso Geográfico Hispano-Portugués-Americano* (Spanish-Portuguese-American Geography Congress); it was organized by the Society in 1892, to celebrate the Fourth Centenary of America's Discovery, and planned by the abovementioned Costa as "a scientific meeting where Spanish-speaking and Portuguese-speaking geographers from both Atlantic sides could exchange opinions and studies" (J. Bosque Maurel, 1998-1999). Attendance amounted to 434 scholars, of which three fourths were Spaniards, 45 Portuguesees and the same number of Hispano-Americans. Papers were presented by Ángel Rodríguez de Quijano y Arroquia, Rafael Torres Campos, Antonio Beltrán y Rózpide and Anthropologist Federico Olóriz, by Joaquín Costa and Cánovas del Castillo who pronounced the closing speech (J. A. Rodríguez Esteban, 1994-1995). In this Congress, there were some single mentions to issues related to Spanish possessions in the Caribbean and in Oceania.

Many debates were held on African issues; in 1877 Francisco Coello, C. Fernández

Duro and J. M. Tubino held a first Debate on Explorations of Africa: Morocco, that was repeated in 1882 by Coello, Fernández Duro, Martín Ferreiro and Alcalá Galiano under the title "Discussing possible relations between Spain and Africa". In 1884, the *Sociedad Geográfica* in collaboration with the *Sociedad Española de Africanistas y Colonistas* organized a meeting on "Spain on Morocco" in the *Teatro de la Alhambra* in Madrid. All through the 19th century the Society also addressed several requests and letters to the Government in relation to acts taken by France and England on lands that were under the Spanish influence and, in 1885, on "German intrusion in Spanish Micronesia" (J. Sanz García, 1987).

Lucas Mallada organized other relevant debates on "Territory division in Spain" (1879-1881) and "Causes for the Bad Quality of Spanish Soil" (1882). The issues rose so much interest that the most relevant scholars and members took part in them: Botella, Coello, Fernández Duro, Fernández Guerra, Foronda y Aguilera, Gómez de Arteche, Martín Ferreiro, Mallada, Rodríguez de Quijano y Arroquia, Saavedra y Moragas. They discussed with passion and intelligence problems derived from Spain's political and social-economic disease (F. Nadal, 1986, and L. Urteaga, 1988-1989).

On this respect, many Society members as well as outsiders that were Geography professors or scholars wrote on the "Nation's disease" and their works were well known in that moment: *España en Africa* (1884) by Joaquín Costa; *Los males de la patria y la futura revolución española. Consideraciones generales acerca de sus causas y efectos* (1890) by Lucas Mallada; *El problema nacional: hechos, causas, remedios* (1899) by Ricardo Macías Picabea; *Del desastre nacional y sus causas* (1899) by Damián Isern; *Política de España en África* (1907) by Gonzalo de Reparaz; *Castilla en escombros. Las leyes, la tierra, el trigo y el hombre* (1915) by Julio Senador (J. Bosque Maurel, 1992 and 1998).

In those years, Geographical Thought shaped around the studies carried out by Alexandre Humboldt (1769-1859) and Karl Ritter (1779-1859). However, without the means and support of colonial powers, many of the geographical studies carried out on faraway countries would have never taken place nor would we have obtained our knowledge of the world in its many physical, anthropological and economic aspects. Thus, general geographic studies achieved an academic and scientific acceptance that enclosed some of its branches concerned on Europe's land expansion in Africa and Asia, such as Colonial Geography, Political Geography and, even Geopolitics. It is the time of Paul Vidal de la Blache (1845-1918), Frederick Ratzel (1844-1904), Alfred T. Mahan (1840-1914) and Halford Mackinder (1861-1947).

This geographical thought began to be introduced in Spain thanks in part (we can not forget the role played by the *Institución Libre de la Enseñanza*) to the *Sociedad Geográfica de Madrid* and, above all, to the Reports and/or Yearly Reports prepared by its Secretaries. The first of these Reports was by Martín Ferreiro in 1882; it was entitled "Memoria sobre el progreso de los trabajos geográficos. El Congreso Geográfico de Venecia" (A report on geographical papers. Venice's Geography Congress) and it was followed by other reports made by Ferreiro and his successors in the post: Torres Campo (1896, 1897 and 1898) and Beltrán y Rózpide (1898, 1904, 1905, 1907).

The concept was founded on the "unity of the Geographic Science", a principle defended by many personalities such as Manuel María del Valle y Cárdenas (1879), the Historical Geography Professor in the Universidad de Madrid, although they accepted the existence of different sections. As it was usual at that moment, there was a section

on "Astronomic Geography", advocated by Miguel Merino, a member of the first Board, who taught it in the University (1876); other relevant sections were: Physical Geography, Political Geography, Historical Geography, Economic Geography and Trade Geography. Thus, from the idea of the Geographic unity, all these sections (even if Astronomic Geography was undervalued) were mentioned and appeared in all the Society Reports and in the commission reports such as the one on "the Geological Map of Spain and Portugal made by the Mining Engineer Federico Botella y Horts" issued by a Commission chaired by Ángel Rodríguez de Arroquía (1881).

According to the Secretary's Yearly Reports, it is clear that Society members had a conceptual and epistemological approach that was similar to the French and German theories as shown by the articles published in the *Boletín*. In 1881, Martín Ferreiro stated that Geography "encloses... the study of land forms, extended to the expressions and relations of the several branches of the organic world" and turns, therefore, into "a special science in itself, that takes from other sciences what it needs to meet its own object" (M. Ferreiro, 1881, 353). Above all, Geography is very close to Economy as it, like Geography, embraces "within its own and respective field, ... the two essential natural and human factors ... (both of them included) under the law of a higher unity, through which individuality and specificity vanish to let universality and necessity appear" (M. M^a del Valle Cárdenas, 1879, 181). From this point, Antonio Blázquez thought that Geography achieves a scientific rank when it goes from "description to explanation", to "the study of phenomena in relation to their determining causes" (1900, 108). Later on, Ricardo Beltrán y Rózpide defined Geography as the "science of synthesis", the objective of which is "the relations between Earth and Man" (1907 and 1908). They however did not forget Geography's essential capacity to practical application, as shown by their general concern for Spanish geographical nomenclature and the appropriate transcription of foreign toponyms (J. A. Rodríguez Esteban, 1996, 194-206).

In brief, the Society "echoed Geography's conceptual concerns and became an arena for the discussion of the postulates that prevailed in Spain and abroad through different periods" (J.A. Rodríguez Esteban, 1996, 193). Therefore, the Society was interested on getting to know and, even, to translate the different approaches prevailing abroad: works by E. Banse (19), D. Faucher (1935), Sten de Geer (19), J.A. Herbertson (1911), H. Lautensach (1932 and 1950), G. Leigh Mallory (1921), G. Niemeier (1933), A. Perpillou (1953), O. Quelle (1909), K. Ritter (19), M. Sorre (1933), W. Tower (1911), among others were translated and published in the *Boletín* thanks to the effort and implication of Vicente Vera, J. Carandell, J. Gavira and J. M^a Torroja. Besides, there were open sessions in which personalities such as Antonio Canovas del Castillo (1883), Albert de Monaco (1912), Aimone de Saboya-Aosta (1929) and Umberto Nobile (1943) participated.

2. THE REAL SOCIEDAD GEOGRÁFICA (1901-1940)

Since its creation, the *Sociedad Geográfica de Madrid* had had the favour of the Royal House, a relation that was not broken by the death in 1885 of its first protector, King Don Alfonso XII. The Regent Queen Dña. María Cristina was a "protector member", Princess Isabel was a numerary member of the Society, His Royal Highness Don Carlos de Borbón y Borbón was a "Honorary President", and different First Ministers

were members of the Society or of its Board: Antonio Canovas del Castillo, Segismundo Moret and Marcelo de Azcárraga held the President post; the Society activities were always positively valued. The climax of this relation was the Royal Order dated February 18th, 1901, by which and at the request of the Ministry of Public Instruction, Mr. Antonio García Alix, a Society member, it was ordered the change of name of the Society to *Real Sociedad Geográfica* (RSG), the change of its Bylaws and the assignment of the amount of Ptas. 25,000 per year in the State General Budget as a subsidy for its maintenance. The name has been used since then except for the Second Republic years (1931-1939), when it was called *Sociedad Geográfica Nacional*.

Under its new name, there were inner and external changes but were not many or decisive. The Society's social and professional make-up, specially once the founding generation died out (Coello died in 1898, the count of Toreno in 1889, Saavedra in 1912) changed little by little. In the first two decades of the 20th century, the President chair was occupied by military: the sailor Cesáreo Fernández Duro (1899-1908), General Julián Suárez Inclán (1908-1909), Admiral Marcelo de Azcárraga (1909-1915); but at the end of the First World War, politicians and scholars took the seat: Francisco Bergamín (1919-1927), a Professor of the Universidad Central Eloy Bullón y Fernández (1930-1932), Gregorio Marañón y Posadillo (1932-1934), a famous and wellknown physician and writer. But a much more relevant change was that professional geographers or other scholars took the Life Secretary post: Rafael Torres Campos (1896-1904), Ricardo Beltrán y Rózpide (1905-1928) and José M^a Torroja y Miret (1929-1954); a change that was confirmed by the Librarians' Geographic adscription: Antonio Blázquez y Delgado – Aguilera (1900-1929) and Julio Guillén y Tato (1929-1948). It represented the absolute and percentage increase of teachers and professors (Geography teachers included) among members: 57 (8.7%) in 1876; 32 (11.1%) in 1906; 81 (20%) in 1935 (J. A. Rodríguez Esteban, 1996).

With the new century, the *Real Sociedad* kept the expressed principles and foundations but suffered some changes in its activities. There was an increase of studies devoted to Africa's geography, politics and history, especially after the execution of the Treaty of Algeciras (1904) that defined and specified the Spanish territories in Morocco, Sahara and the Gulf of Guinea. There were even expeditions to those regions under a more scientific and sportive approach, that reached even the 1950s and 1960s, in spite of the undeclared state of war in the Moroccan Protectorate (1908-1925). In 1901, at the request of the State Ministry, the RSG and the *Sociedad de Historia Natural* formed a Commission with the mission to delimitate and demarcate the territories of the Sahara and Guinea; in 1912, the RSG prepared a "Plan of the studies to be made on the Spanish colonies and areas of influence of Spain in Africa" and a Committee chaired by Odón de Buen prepared the first exploration to Southern Magreb, directed by Enrique d'Almonte (1911), while Lucas Fernández Navarro (1869-1930) sponsored and directed many of the expeditions to the North of Africa during the first two decades of the 20th century. Later on, in 1934, after the occupation of Ifni and the ancient Santa Cruz de la Mar Pequeña, the then-called *Sociedad Geográfica Nacional* organized an open session to study the situation (E. Hernández Pacheco, 1935).

During this period, reports on possible interventions of Spain in Africa multiplied (24-10-1900, 30-4-1904, 11-12-1909, 12-3-1920) and the *Revista de Geografía Colonial y Mercantil* was included in 1905 in the Colonial Agency of the Ministry of

State; in 1907, the RSG was included among the institutions that were to give advice to the Government on African issues; in 1916, the RSG and the *Real Academia de la Historia* collaborated with the Ministry of State to create a *Junta Superior de Historia y Geografía de Marruecos* (Committee on Morocco's History and Geography) and, in 1930, the RSG started a Series of Conferences on Spanish area of influence in Morocco (V. Fernández Ascarza, 1930) that was to be followed by a photographic exhibition on that country. Consequently, the *Boletín* published many articles and works by the members: D'Almonte published from 1902 to 1914, five articles on Guinea and Sahara in the RSG's *Boletín* and in the *Revista de Geografía Colonial*; Beltrán y Rózpide published ten articles between 1900 and 1927; in 1907, Gonzalo de Reparaz published a second edition of *España en Africa*; in 1915, Jerónimo Bécquer, his *Historia de Marruecos*; in 1914, Juan Dantín Cereceda, "*Una expedición científica por la zona de influencia española en Marruecos*"; in 1921, the RSG awarded Abelardo Merino the Bergamín Award for his book on Morocco, a subject that would continue arising very often (J. M^a Bonelli, 1975).

The *Real Sociedad* was also concerned for America, specially after the "Disaster of 1898"; interest that did not match the little attention paid while the conflict developed and ended on the Paris Treaty. The only attention then paid was the Spanish-Portuguese-American Congress held in 1892 that dealt on general issues and did not refer much to the problems suffered by the last Spanish possessions in the world. However, one of the Society's main foundational objectives was "the territories of Spain and the peoples of Spanish origin" (Estatutos, 1901, 11). The defeat of 1898 and the later Treaty of Paris (1898) as well as the lack of concern shown by the European powers made politicians and the Spanish society in general to try to increase and improve their links with Hispano-America. The *Real Sociedad* wanted to reinforce their existing relationships with other similar overseas institutions (in 1930s there were 18 Latinoamerican correspondent members out of 42) as a manner to strengthen "race links" (sic), the only ones that were strong enough to make any progress in international agreement (R. Beltrán y Rózpide, 1901). Thus, the belief on the "common destiny of Spanish-speaking peoples" and on a "great spiritual confederation of the Iberian nation in both worlds" was increased (F. V. Silva, 1922, 56, quoted by J. A. Rodríguez Esteban, 1996, 261). In 1904, the *Real Sociedad* appointed four representatives: Emilio Bonelli, Ignacio Arce, Antonio Blázquez and Ricardo Beltrán, to the Standing Commissions of the Unión Ibero-Americana created in 1880, and the *Boletín* published its works. It was then when a line of thought started to be recognized by José María Pemán (1927) that Maeztu (1932) and García Morente (1938) took to its climax. At the same time, the Society started a series of analysis of USA actions in Ibero-America, for instance, *Las colonias españolas después del tratado de París de 1898*, by Rafael M. Labra (1900) and *Los pueblos hispanoamericanos en el siglo XX* by Ricardo Beltrán y Rózpide (1904).

The attention paid to America and Overseas Territory was consolidated and confirmed by two Geography and History Congresses, sponsored by the RSG, that were in a manner an extension of the congress held in 1892. Both congresses were held in Sevilla, the town that was the head of Spanish-American relationships till the end of the 18th century. The first congress took place in 1914 and celebrated the Fourth Centenary of the Discovery of the Pacific Ocean by Vasco Núñez de Balboa; its relevance was increased by an Exhibition of Colonial America-related documents, writings and maps organized

thanks to the collaboration of the *Archivo de Indias* and the *Biblioteca Colombina*. The idea was started by the *Academia de la Historia* and, immediately, the *Real Sociedad Geográfica*, the *Unión Ibero-Americana* and the *Universidad Central* joined, followed by the Municipal Corporation of Seville and the Ministries of State, Public Instruction and Works. Iberoamerican participants were fewer than in 1892, while RSG's presence was a majority: out of 25 Spanish members, six represented the Society: R. Beltrán, V. Versa, A. Blázquez, Mario Méndez, L. Martín and J. de Ciria, apart from Marcelo de Azcárraga and Jerónimo Becker, who were members of the Board of Directors. All of them presented many articles and papers (Congreso, 1914). The second congress was also held in Sevilla in 1921 and organised by the same institutions: *Real Academia de la Historia* and *Real Sociedad Geográfica*, *Unión Ibero-Americana*, *Universidad Central* and the Municipal Corporation of Sevilla, plus the *Real Academia de Ciencias*. It celebrated three events of the Spanish past in America: the crossing of the Strait of Magallanes (1920), the discovery of the Marianas islands and of the Philippines (1521) and the arrival of Juan Sebastián Elcano to Sanlúcar (1522). The presidents of the organizing institutions formed the organizing Committee; together with Francisco Bergamín, of the RSG's, Ricardo Beltrán acted as Vice-President and Jerónimo Becker acted as Secretary. The American participation was significant for the many official delegations attending. The Congress was based on the presentation and discussion of three main reports prepared by Gustavo Fernández Bastos, of the *Academia de Ciencias* (*Reseña cronológica de las principales exploraciones hidrográficas realizadas por los españoles en las costas del continente hispano-americano*), Jerónimo Becker, of the *Academia de la Historia* and the *Real Sociedad Geográfica* (*La política española en las Indias*) and Antonio Blázquez, of the *Real Sociedad Geográfica* (*Tres relaciones de tierra y descubrimientos del siglo XV*) that were published afterwards. Apart from these three reports there were many papers on very different subjects, all of them related to America and the Philippines (Congreso, 1921).

A subject-matter started in 1876, History of America and of the Geographic Discoveries, became for the RSG an area of constant and prevailing study to celebrate every anniversary that took place all through the first half of the 20th century: deaths of Christopher Columbus (1904), of Vasco Núñez de Balboa (1914), of Alfonso X the Wise, Magallanes and Elcano (1921), birth of Camôens (1924), Felipe II's Fourth Centenary (1927). And many were the books of travels and unknown maps published: *Geografía y Descripción Universal de las Indias de Juan López de Velasco*, by Justo Zaragoza (1894), *Primer viaje alrededor del mundo. Relato escrito por el caballero Antonio Pigafetta*, translation and notes by Carlos Amoretti and Manuel Walls (1899), *Relaciones geográficas de la Gobernación de Venezuela (1767-1768)*, edited by A. Altolaquirre (1909), *Islario general de las islas del Mundo por Alonso de Santacruz*, *Cosmógrafo Mayor de Carlos I de España*, with a preface by A. Blázquez (1920) and *Diario de la primera partida de demarcación de límites entre España y Portugal en América*, by Jerónimo Becker (1920-1928). In other works it is apparent the interest felt by the *Real Sociedad* for the geographical knowledge of Spain in the past: *Descripción de España de Estrabón* (1900), *Descripción y Cosmografía de España por Fernando Colón* (1910-1917), *Avieno. Ora marítima* (1924), all these works were edited by the Society Librarian Antonio Blázquez. There was also a preferential interest for the present of Spain, as shown by the many articles and books published, around fifty works between

1901 to 1910 and around one hundred works from 1921 to 1930; some examples of these works and articles are: *Sierra Nevada y las Alpujarras. Notas de viaje y apuntes*, by E. Soler y Pérez (1903), Juan Carandell's numerous works on Andalucía (1921 to 1934), Eduardo Hernández Pacheco's works on Spanish Physical Geography (1923 a 1936), or the excellent geographic chronicles started by José Gavira in 1931 (Real Sociedad Geográfica, 2000).

To these important subjects, we can add the interest and concern felt in relation to the development of the Geographical Science and its teaching in a country whose cultural and school-university levels had not adapted to the birth and diffusion of the new, modern and scientific Geography that was already existing in Germany, France and the United Kingdom. We must keep in mind that the first Geography Chair was created in the Spanish University in 1907 in the Universidad Central de Madrid with a denomination, Policial and Descriptive Geography, that recalls Ratzel's work. It was chaired by Eloy Bullón Fernández, a member of the *Real Sociedad* and its president from 1930 to 1932. The discipline, at first with the same denomination and later on, in 1923, as Geography, extended to other Spanish Universities; thus in 1930s there were five Universities: Barcelona, Sevilla, Valencia and Valladolid, plus Madrid, where Geography was taught and where many of the professors and students were members of the RSG (J. Bosque Maurel, 1992).

This concern for Geographical concepts appears also in several of the Reports on Progress of Geographic Works presented every year by the Society Secretaries: R. Torres Campo (1895, 1897 & 1901), R. Beltrán y Rózpide (1898, 1904, 1905, 1907) and V. Vera (1906 y 1908), published in the *Boletín*, as well as in the many articles published in the journal: 23 articles between 1901 to 1910, around thirty papers between 1921 to 1930, by R. Álvarez Sereix (1903), Jerónimo Becker (1905), R. Beltrán y Rózpide (1908), Odón de Buen (1909), M Miranda and R. Ballester (1909), M. Santaló (1926), J. M^a Torroja and R. de Buen (1929). This work line has continued to our days, as shown by the articles by J. Gavira (1934), L. Urabayen (1934), E. Huguet del Villar (1935), J. M^a Igual Merino (1952), A. Gil Crespo (1964), J. Bosque Maurel (1979), J. Estébanez (1981), M. Molina Ibáñez (1983), R. Puyol Antolín (1998) and A. López Gómez (1999).

Another relevant date for the *Real Sociedad* is December 26th, 1922, when the Spanish Government accepted the Society proposal to have its Board of Directors becoming the National Committee for the just-born International Geographical Union. It was on July 27th, 1922 at the General Meeting of the International Research Council, held in Brussels with the attendance of Belgium, France, Italy, Japan, Portugal, Spain (the *Real Sociedad Geográfica*) and the United Kingdom -, when it was decided, in the manner of other scientific disciplines, to create the International Geographical Union (O. de Buen and S. Gómez Núñez, 1923). To the seven founding nations many other countries were joined up to the total number of the 94 members in 2000. In 1996, at the proposal of the *Real Sociedad* and after a period of reflection and discussion, the IGU Spanish Committee was renewed after other Spanish geographical bodies and institutions: *Instituto Geográfico Nacional*, *Servicio Geográfico del Ejército*, *Consejo Superior de Investigaciones Científicas* and the regional *Sociedades Geográficas*, joined it, although the *Real Sociedad Geográfica* and the *Asociación de Geógrafos Españoles*, created in 1977, are still relevant in its working (Real Sociedad geográfica, 2000).

From the first moment and till the late years of the 20th century, the Spanish presence and contribution to the IGU centered in the RSG – though it was not always acknowledged (R. Majoral, 1995-1996) –, but with significant contributions from *Consejo Superior de Investigaciones Científicas* and from *Instituto Geográfico Nacional*, and they have always achieved excellent results in the Meetings and Congresses. Before the IGU was created, many members of the Real Sociedad attended to the Congresses periodically held since the first congresses in Antwerp (1871) and Paris (1875), where Francisco Coello attended and acted even as Vice-President, and became the spur for the Sociedad's incorporation. Later on, Coello and some other members: Martín Ferreiro, Torres Campos, Conrotte, Jiménez Lluesma, Fernández Ascarza, Odón and Rafael de Buen, represented the RSG and the Spanish Geography at the ten previously-held Congresses, and in that position, they left their reports in the Boletín. We have to point out Coello's efforts in Antwerp and Paris, and those of Torres Campos in Paris (1889), Berna (1891) and London (1895). Besides, the RSG attended to many other international scientific meetings (50 meetings appear in the Boletín from 1876 and 1936) on Geology, Colonial Matters, Natural Sciences, Americanists, Photogrametry, apart from the basically-political Conferences on the Inter-oceanic Channel held in Berlin (1885) and Panamá (1903) (J. A. Rodríguez Esteban, 1996).

Afterwards, at the Congresses organized by the IGU, the RSG always sent a large and significant representation as the Spanish National Committee; to Cairo (1925) S. Fernández Ascarza, I. Bauer and P. Novo; to London/Cambridge (1928), Odón de Buen, J. Carandell, R. Castro, J. Dantín Cereceda, E. Hernández Pacheco and R. Ortiz; to Paris (1931), Odón de Buen and E. Hernández Pacheco, and to Warsaw (1934), O. de Buen and J. Carandell. From the first moment, the Real Sociedad Geográfica raised and defended alone (until the Spanish Committee was reformed in 1996) that the Spanish language ought to be one of the official languages spoken at any international geographical meetings: in 1899 (Berlín) a petition was filed to be accepted in Washington (1904), although it was never effective in any of the later meetings. Once the IGU was incorporated, the Spanish National Committee repeated its petition in 1924 before the General Meeting that, "decided unanimously and with no discussion its admission on the same terms than English and French" (J.A. Rodríguez Esteban, 1996, 209). In the following Congresses, however, although in 1928 (Cambridge) Official Languages were Arabic, French, English and Italian, and not Spanish. Since then, French and English had been the only official languages, while the only official language in fact is English. In the last Congresses of the 20th century, the petitions have been repeated unsuccessfully. It seems even that, before the Spanish Civil War, this petition had affected negatively on the holding of any of the IGU official meetings in Spain. A relevant event with international attendance was the celebration of the 50th anniversary of the Sociedad held on 25-29 of March of 1926; apart from the Spanish highest personalities, there were representatives of the Societies in Lisbon, Rome, London and Copenhagen.

We could say that the crowning point of the activities developed by the *Real Sociedad Geográfica* before the Spanish Civil War of 1936-1939 is the Project of an Exploration of the High Amazonas River (1930-1935) studied and prepared by the Aeronautical Engineer Francisco Iglesias (1900-1972), well-known thanks to his transatlantic flight from Sevilla to Bahía (1928). The Society supported the project from the first moment through an organizing Commission with E. Hernández Pacheco, G.

Pittaluga, F. De los Ríos, L. de Azcárraga and Gregorio Marañón, who sponsored the making and publishing of *Un proyecto de expedición científica a las fuentes del Amazonas*, and the edition of the journal entitled *Crónica de la Expedición Iglesias al Amazonas*. The republican government's economic help enabled building an hydrographic vessel Ártabro, so essential for the exploration that was prevented by the outbreak of the fratricidal war on July 18th, 1936 (A. Barreiro, 1932-1933).

3. THE REAL SOCIEDAD GEOGRÁFICA (1940-2004)

The 1936-1939 Civil War implied a traumatic break in the life of the *Real Sociedad Geográfica*. Its social and scientific activities were discontinued and the Boletín, its main public activity, was not published during the three years of war, and some of its members such as Odón de Buen (1863-1939) and E. Huguet del Villar (1871-1951) went into exile. Only after the war end, the Society began little by little to recover its activities while a Ministry Order, dated November 24th, 1939, appointed General Antonio Aranda y Mata, a member since 1933, President of the society, that once again was called *Real Sociedad*, a name lost during the Second Spanish Republic.

Almost all the previous members of the Board in 1936, except the President Luis Rodríguez de Viguri y Seoane, were reinstated in the starting Board: as Vice-presidents Pedro de Novo y Fernández-Chicarro, José Casares Gil, a Sciences Professor, Armando Cotarelo Valledor, a Humanities Professor, and José García Siñériz, a Geographic Engineer, as the Life Secretary, José M^a Torroja y Miret, a Civil Engineer, as Delegate Secretaries Wenceslao del Castillo y Gómez and Antonio Revenga Carbonell, an Geographic Engineer, as Librarian Julio Guillén Tato, a Captain and Historian, as well as the other twenty-four elective directors. In this Board, Scientists and University professors prevailed but there were very few Geographers: the Vice-President Pedro de Novo, a Delegate Secretary, Antonio Revenga Carbonell and three other Directors, José M^a Igual Merino, José Gavira Martín and Luis García Sainz. Among the members, there were other sixteen Geography teachers and professors, of which the most known are: Eloy Bullón y Fernández (Madrid), Ramón Ezquerro Abadía (Madrid), Joaquín Gómez de Llarena (San Sebastián), Eduardo and Francisco Hernández Pacheco (Madrid), Amando Melón y Ruiz de Gordejuela (Valladolid), Ramón Otero Pedrayo (Santiago de Compostela), Manuel de Terán (Madrid), Leoncio Urabayen (Pamplona) (Real Sociedad Geográfica, 1941).

In the following years, apart from a civilian, the Geographer Pedro Novo (1943-1950), the President chair was held by different military: Admiral Francisco Bastarreche y Díez de Bulnes (1950-1962), Lieutenant General Carlos Martínez-Campos y Serrano (1962-1964) and Staff General Ángel González de Mendoza (1964-1975). It was a result of the political regime prevailing and of the number of members that were military or navy (sixty in 1961), although their number had already decreased (Real Sociedad Geográfica, 1961). The existence of such a strong unofficial Regime representation may explain the "official nature" given (Order of the Council, dated June 1st, 1952) to the commemoration of the Real Sociedad Geográfica's 65th anniversary, apart from the merits the Society had achieved since 1876, and the granting of the *Corbata de la Orden Civil de Alfonso X el Sabio*. At the activities held, organised to promote "Our Relations

with other International Entities", with the President, Admiral Bastarreche, and the Secretary, Torroja y Miret, there were present personalities from Switzerland (E. Egli), France (A. Perpillou), Italy (G. Boaga), Belgium (M. De Hasque) and Egypt (N. Ahmad), and Spain (J. Vernet, F. Hernández Pacheco, J. Guillén Tato, F. De las Barras) (Real Sociedad Geográfica, 1953).

In the 1970s, the social structure of the Society suffered a relevant change that is still in place. First of all, the military presence disappeared from the Board and the President chair has been held since by civilians: José M^a Torroja y Menéndez (1975-1994), Rodolfo Núñez de las Cuevas (1995-2002), Juan Velarde Fuertes (2002). Most of the Society members are civilians also while the number of professional Geographers has increased much. Thus, on the last years of the 20th century, the Board is formed by civilians, except for the official representation of the *Servicio Geográfico del Ejército*, and most of them are Geographers.

In 2003, the President, Juan Velarde Fuertes, is a Professor of Economic Structure in the Universidad Complutense; of the four Vice-President positions, two of them are an University Professor, Rafael Puyol Antolín, the Rector of the Universidad Complutense, and a CSIC Geography Researcher, M^a Asunción Martín Lou, the three Secretary members and the Librarian are geographers from the same University, and of the twenty-four Board Members, two thirds are Geographers in different Universities in the Community of Madrid or are Secondary School Geography and History teachers. This composition mirrors the prevailing majority of Geographers and Historians among the existing 400 members nowadays.

The Society has clearly changed from the entity created in 1876 and renewed in 1901; however, it must fulfill the main object of its Estatutes (article 3rd): "to promote, develop, and disseminate Geographic knowledge in all its areas and in its applications to social, political and economic life" and to address "the studies of the territory of Spain and of the peoples linked to Spain by language or other reasons" (Real Sociedad Geográfica, 2000).

These changes are clearly shown in the Society's activities and, specially, in its publications. An analysis of the *Boletín's* Tables of Content proves it; in the first three decades (1940-1970), there seemed to be a return to the first years after 1876 in the many studies devoted to a review of the History of Geographical Discoveries and of Western Indias, and information on African territories dependant on Spain. For instance, in the volume published celebrating the Society's 65th Anniversary (1953), out of twenty-five articles, ten of them dealt with this subject matter.

From 1940 to 1970 the RSG sponsored several scientific expeditions. In 1940, L. Báguena Corella and J. Bonelli led an expedition to the Spanish Continental Guinea; F. Hernández Pacheco (1953) and M. Alía Medina, among others, led different geological expeditions to the then Spanish Sahara and discovered large phosphate deposits, and the anthropological expedition directed by Julio Caro Baroja, a Society member as well, to the Sahara desert (1952). In all these activities one of the main actors was General Díaz de Villegas, the State Manager of African Places and Provinces, a member since 1933 and a Board Member from 1948 to 1956, who sponsored many of them, and author of several articles and works such as *España en Africa* (1949) and *Plazas y Provincias Africanas* (1961). This topic had practically disappeared in the 1970s when the decolonization took place.

The interest on Spanish topics prevailed as always. There were studies of Historical Geography and History of Geography, for example "*Geografía cidiana*" (A. Aranda), "*Tharsis-Tartessos*" (E. Baynerri), "*Las carreteras actuales y las calzadas romanas*" (I. Escagües), "*Felipe II y los estudios geográficos y estadísticos*" (G. García Badell), "*Jovellanos, geógrafo*" (J. García Prado) among others, published from 1941 to 1950. Some series of conferences and articles were published in the *Boletín* and included in the *Colección Geográfica de la Real: Recursos minerales de España*, by Agustín Marín (1942); *Los puertos españoles. Sus aspectos histórico, técnico y económico* (1946), and another basic work on the Society, *Catálogo de la Biblioteca de la Real Sociedad Geográfica* (1947 and 1948) by the Librarian José Gavira Martín, author of excellent and innovating articles published in the *Boletín* and of a valuable "*Crónica geográfica*" that was left unfinished as Gavira died soon after (1950); *Diccionario de voces usadas en Geografía física* (1949) by the Society President, Pedro de Novo y Fernández Chicarro, the only work in Spanish on the subject in that moment; *Viajeros españoles de los siglos XIX y XX. Estudios bio-bibliográficos* (1952), by Francisco de las Barras y Aragón, and *Ciento noventa mapas antiguos del mundo de los siglos I al XVIII que forman parte del proceso cartográfico universal* (1970), by Carlos Sanz.

The Society collaborated with the *Asociación Española para el Progreso de las Ciencias*, the *Instituto de Geografía Juan Sebastián Elcano* (CSIC) and the respective Universities, first through the Secretary and through the President office, held successively by José M^a Torroja Menéndez, in the preparation and meeting of the first *Coloquios de Geografía* (Geographic Meetings) in Zaragoza (1961), Madrid (1965) and Salamanca (1967), that meant a significant change in the concepts and topics of Geography mirrored by the daily life of the Real Sociedad Geográfica. Many Courses and Conferences, specially after 1970, were held on subjects of actual interest: concept (Geography's being), territory (the different regions that form Spain and the nations in America) and tools (Cartography, GIS and Remote Sensing).

Change that had a great influence on the *Boletín* and its related publications. In 1970s, thanks to Francisco Vázquez Maure, this change was apparent in the celebration of the 100th Anniversary of the *Sociedad Geográfica de Madrid* (1976), when a monographic volume on "Analysis of the large Spanish populations" was published with the collaboration of the best specialists. In the early 1980s, a new Editing Board, chaired by Antonio López Gómez, the Vice-President of the Society and a Professor of the *Universidad Autónoma*, and formed by Rafael Puyol Antolín, Juan Velarde Fuertes, Aurora García Ballesteros and María Asunción Martín Lou, and with Joaquín Bosque Maurel as the Secretary, confirmed this change. From now on, the *Boletín* adjusted to new Geographical tendencies: historical subjects decreased their relevance although a section was created on "Classical Texts in the RSG's Past" (J. Melcón, 1993; F. Nadal, 1986; J. A. Rodríguez Esteban, 1990-91; L. Urteaga, 1988-89, and J. Velarde, 1983); the studies on Spanish and general Geography prevailed; there appeared conceptual studies; monographies were published; international collaboration was looked after especially in South-America, and scientific publishing rules were established.

A new working line has appeared and affected all the *Boletines* published in the 1980s and 1990s, and has extended to the attached publications such as the "Contributions" to the IGU Congresses, monographic volumes (*Algunos ejemplos de cambio industrial en España* (1986), *Cartografía y Descubrimientos geográficos y*

Crecimiento y rehabilitación urbanas en Ibero América (1992), *Espacios naturales protegidos en España* (1996), coordinated by J. Bosque Maurel) and to the activities held by reason of the 125th Anniversary of the *Sociedad Geográfica de Madrid* and of the 100th Anniversary of the *Real Sociedad Geográfica* (2002).

If the celebration of the 125th anniversary was a milestone in reference to the Society's international relations, likewise important was the role played by the Society as IGU's National Commission, cut short by the Civil War, and resumed with a significant Spanish representation in the first of the International Congresses held, after the Second World War, in Lisbon in 1949 thanks to the determination of the Lisbon Geographer Orlando Ribeiro (1960). Since that moment, the Spanish representation has always been present (J. Ml. Casas Torres, 1952 and R. Majoral, 1995-1996) at the Congresses held and information on them has been given in the *Boletín* (J. Gavira, 1949; A. Gil Crespo, 1958 and 1966; F. Vázquez, 1962 and 1976; J. Bosque Maurel, 1986 and 1992).

Many Spanish Geographers and RSG members have been members of the Working Commissions and Groups: A. Melón, L. García Sainz, J. Ml. Casas Torres, L. Pérez Pardo, F. Vázquez Maure, J. Vilá Valentí, M. Ferrer, M. Valenzuela. For instance, Vázquez Maure chaired the Commission on "National Atlas" and was a member of the Commission on "History of Cartography", and Vilá Valentí was the Secretary of the Commissions on "Geography Teaching" and "Geography and Education", was a member of "History of Geography" and, from 1980 to 1988, was a Vice-President of the IGU's Executive Council. With the collaboration of the RSG and of different university Geography Departments, Juan Vilá chaired the Commission that organized the Regional Conference on Mediterranean Countries (1986). The Conference main seat was in Barcelona and held different Working Commissions and Groups in Barcelona (9), Madrid (7), Zaragoza (3), Granada (4), Palma de Mallorca (2), Sevilla (2), Jaca (Huesca), Pamplona, Málaga, León and San Sebastián, one in each location (J. Bosque Maurel, 1986).

Since 1964, when the 20th IGU Congress was held in London, the Spanish geographic community has provided a continuous "Contribution" to International Congresses. At first the Contribution was a publication with several research works, edited by the CSIC in 1964 y 1968, and by the *Real Sociedad Geográfica* (1976, 1980, 1984, 1988, 1996); it was edited (1992, 2000 and 2004) jointly by the RSG and the *Asociación de Geógrafos Españoles* (AGE), the basic bodies that form at present IGU's Spanish Committee, as monographies related to the subject matter of each Congress: *La Geografía en España* (1970-1990) in Washington (1992) and *Vivir la diversidad en España* (Seúl, 2000), while the issue for Glasgow (2004) is in preparation.

Besides, the *Real Sociedad Geográfica* is a founding member of the *Asociación Europea para la Geografía* (EUGEO) created in 1997 by the Geographical Societies of eleven countries: Germany, Austria, Belgium, Denmark, Eire, France, Italy, Netherland, Portugal, Spain and United Kingdom. Among its objectives, we have to point out: to pay attention to geographical and environmental problems, to set a wide European approach to Geographical research, and to promote Geographical research and teaching in Europe. The President seat is in the Open University in Brussels and the Secretary seat is in the Italian Geographic Society in Rome, and the Spanish representative, Manuel Valenzuela Rubio, is a Board Member.

The long and complex life of the *Real Sociedad Geográfica* mirrors not only the evolution of the Spanish Geographic community but also the events of recent Spanish History and maybe the happenings in its social life. This is the case of the celebration of the 125th Anniversary of the *Sociedad Geográfica de Madrid* and of the 100th Anniversary of its becoming the *Real Sociedad Geográfica*. This double celebration had the invaluable assistance of the Ministry of Public Works and of the *Instituto Geográfico Nacional*, of such links with the RSG, of the Ministry of Culture, Education and Sports, of the **Universidad Complutense** and of the *Biblioteca Nacional*; its Honorary President was his Royal Highness, King Juan Carlos I. The celebration took place in Autumn 2002; we ought to point out an interesting series of Conferences, coordinated by Professors and lecturers Valenzuela Rubio and Mariano Cuesta Domingo on A World to be Discovered in the 21st Century, held in the *Biblioteca Histórica "Marques de Valdecilla"*, with the participation of twenty specialists, most of them Geographers as well as other well-known experts; an interesting Exposition on Historical and Cartographic Funds in the *Real Sociedad Geográfica*, held also in the same *Biblioteca Histórica*, and the commissioners of which were José Cruz Almeida and Eduardo Barredo Risco; the edition of a special Boletín issue, that recalled the sad loss of two active Society members, Antonio López Gómez and José M^a Sanz García; and the edition, with prologue, study and notes by Professor Mariano Cuesta, of the "*Islario de Alonso de Santa Cruz*". We have to add that the Community of Madrid and the companies *Ibercaja* and *Endesa* have made generous economic collaborations. And we may end referring to our presence and activities in the Fair "Madrid and Science" since 2002.

The 125 years of the *Sociedad Geográfica de Madrid* and of the *Real Sociedad Geográfica* reveal a past and present theoretical and practical concern, in which the original 19th century regeneration has turned into a wish of improving the Spanish society but within the universal requisite of a sustainable development and of an omnipresent globalization, and in which the Spanish past is alive in America's population and discovery, as well as other problems of the New World. A double source that has provided relevant contributions to those subjects in the Society's debates and publications.

Said concern and activities have accounted, throughout its 125 years of life, for the creation of some large and important historical (cartographic and bibliographic) funds, nowadays kept in the *Biblioteca Nacional* in Madrid. The bibliographic funds are an excellent specialized library with more than 11000 books, 12700 booklets and 110 journals, both Spanish and foreign; and a magnificent Map Collection with several thousands of maps— 7,492 in 1947-1948 (J. Gavira) — dating back to the middle of the 18th century, among which there is the only existing copy of the Map of Spain by the Jesuits Carlos Martínez and Claudio de la Vega (1743) —, although the core collection is of 19th-century and early 20th-century maps. A collection that could have been even larger but for a lamentable fire that happened in 1950 in the deposit located in the Magdalena street. Said fire affected especially the journals collection that, according to Gavira, amounted to 242 different journals, of which 58 were from Spain, 37 from France and 20 were from Germany (R. Ezquerro, 1971).

Throughout these 125 years many changes and modifications have taken place in the World and in Geography. In the dawn of the 21st century there are not so many areas in our planet that have not been discovered or studied in depth. The Space Career was started in the 20th century and it has much road to go before Mankind is able to start coloni-

zing other planets. Undoubtly there is an almost infinite number of "brave new worlds" before us to be known, studied and improved on its many different aspects (M. Valenzuela, 2003). A knowledge - we could say a discovery, as in the 19th century- that is made possible thanks to the accelerated development of all kinds of new technological means that require a new and different experience, a material and mental innovation. And said new expertise and technologies are turning the world into a "global-village" with plenty of problems and conflicts that require from us a deeper and stronger attention. It will be, in short, a New Era of Discoveries, a New Recognizance of Earth and a New Approach to the Use and Conservation of this Brave New World, that is shaping at such a speed and with very sophisticated and innovating peculiarities and features. A Brave New World where Geography has a relevant role to play.

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GEOGRAPHERS AND CARTOGRAPHIC INSTITUTES

CARME MONTANER GARCÍA

1. GEOGRAPHY AND CARTOGRAPHIC INSTITUTES IN SPAIN BEFORE THE 1980's

"When, from the second half of the 19th century, contemporary Geography develops, due mainly to pedagogical reasons, cartography will evolve into an independent science with a well structured technical and professional community and Geography will become a new discipline..." (Capel 1982: 341).

When, by the middle of the 19th. century the modern cartographic institutes started to be organised in Spain, Geography had actually diverged from cartography. The professionals in charge of making maps and covering posts in official institutions where those who, rather than geographers, were more dedicated to the mathematical disciplines required by cartography, especially topographers. The Spanish modern Geography, which came into being in those same years, had nothing to do with the most technical cartography or its specialities, like, for example, Geodesy or Photogrammetry. The consequence of this was that there was almost a complete lack of graduates in Geography in official institutions until only some years ago.

Geographers dedicated themselves to thematic and derivative cartography using it as a pedagogical tool or for the elaboration of atlases, although this has often been a sporadic task done by professionals dedicated to teaching. In this sense, we cannot talk about a traditional presence of geographers working exclusively in cartography, especially before the 1980's, although there might be optimist arguments about this (Rabella, 200).

A brief review of the professional profiles of the first Spanish cartographic institutes created in the 19th. century which are still active will prove this fact.

The *Instituto Geográfico Nacional* (<http://www.cnig.ign.es>), a civil institution created in 1870 which inherited the official cartographic initiatives boosted throughout the 19th. century, is the public entity in charge of the elaboration of the topographic map of Spain. In the beginning, members of the Army corps, civil engineers, topographers, statisticians, as well as assistants in Geodesy and field carriers of measuring equipment were occupied in it (Muro, 1990: 231). In 1900, a specific professional body was created, the Geographer-Engineers, which lasts until now. The presence of geographers in this institution has always been very scarce, although there are some exceptions, like Emilio

Murcia, a geographer who was director of the *Instituto Geográfico Nacional*.

Spain has also got military cartographic services occupied by army staff; these are professionals who have been trained in the Army academies. In this sense, the *Servicio Geográfico del Ejército*, in the Army, the *Centro Cartográfico y Fotográfico del Aire*, in the Air Force, and the *Instituto Hidrográfico de la Marina*, in the Marine, are all supplied by their own staff, which includes, geodesists, topographers, field carriers of measuring equipment, etcetera, that is, professionals from all the disciplines involved in the elaboration of a map.

Another important cartographic institution in Spain is the *Instituto Geológico y Minero de España* (<http://www.igme.es>), in charge of producing the geological map. This institute was created after a series of initiatives designed to elaborate the thematic cartography of natural resources in Spain, which started after the promulgation of the *Ley de Minería* (Mining Industry Law) in 1825 (Muro, Nadal, Urteaga, 1996: 194). The personnel who elaborate the map are also people from civil engineer corporations, in particular from the Mining Engineer Corps, created in 1833.

In short, the official Spanish cartography has traditionally been elaborated by civil and military engineers and counts with a specific body, the Geographer-Engineers, who have a professional profile centred in engineering and no link with the degree in Geography. On the other hand, there has been an almost complete lack of graduates in Geography in the mentioned institutions. Geography, as a discipline, was focused on teaching much more than in publishing tasks and, for a long time, cartography was not taken as a possible professional opportunity. Nevertheless, the political, educational and professional background in Spain started to change by the end of the 1970's.

2. THE NEW SCENERY SINCE THE 1980's

By the end of the 70's three factors came together which would end up favouring the gradually increasing presence of geographers in cartographic institutes. On one hand, the Spanish political situation changed completely after Franco's death. The restoration of the democracy led to the modernisation of the public administration, as well as to the new territorial division of the country in autonomous communities with authority in territorial matters. As a consequence, new working posts were created and, among them, some related to cartography due to the deficit of maps in Spain in those years.

The modernisation of the Spanish public administration was simultaneous with the second factor, the beginning of a technological revolution in cartographic techniques (Monmonier, 1975). The introduction of computers, which, little by little, would be used for all the map-making processes and the spectacular increase in the capacity of obtaining and processing data led to a very important change. Digital processes generated new posts in cartography which were covered by professionals from other disciplines. Computer specialists, as well as geographers, started to specialise in some areas of the cartographic production.

And thirdly, a gradual pedagogical renewal of the studies in geography towards applied fields, towards cartographic techniques specifically, would favour the incorporation of geographers in the cartography business. It is true that the subjects which are most related to Geodesy or with computer programming are still taught in studies with technical profiles (engineering, computer studies, Mathematics,...), nevertheless, other subjects such as carto-

graphic design, satellite image interpretation or the most recent Geographic Information Systems, form part of the Geography programmes of most Spanish universities.

These factors –a new administration, a renewal in cartographic technologies and the new tendency of studies in Geography towards applied techniques- favoured the incorporation of Geographers in the cartography world, in general, and specifically, in the cartographic institutes. Actually, this new orientation of Geographers towards a new professional opportunity was not exclusive of cartography, it is the result of the increasing general interest for spatial and territorial subjects which has enabled the incorporation of geographers in many sectors of the public administration (Zoido, 2001: 40).

3. CARTOGRAPHIC INSTITUTES

The modernisation of the public administration and the transfer of territorial power to the autonomous communities soon caused the need for all kinds of maps. In order to palliate the existing deficit, local, provincial and regional cartographic services were organised. At a national level, cartographic departments were created in other public services. These facts meant the apparition of new posts related to cartography in public administration levels, where there were no organised professional rules. As a consequence, geographers started to have access to the new created cartographic services.

In a little over twenty years, the number of public organisations related to cartography has significantly increased and they have expanded throughout the whole country, as can be observed in chart 1, where some of the services, public companies and cartographic institutes of different autonomous communities are shown.

1)

Andalucía	Instituto Cartográfico de Andalucía
Aragón	Diputación General de Aragón. Servicio de Cartografía
Asturias	Consejería e Infraestructura y Política Territorial. Sección de Cartografía INDUROT
Baleares	Consorci d'Informàtica Local SITIBSA
Canarias	GRAFCAN
Cantabria	Consejería de Presidencia. Director Regional de Servicios Generales
Castilla - La Mancha	Consejería de Ciencia y Tecnología. Dirección General de Telecomunicaciones y Técnicas de Información
Castilla - León	Consejería de Fomento. Servicio de Ordenación del Territorio
Cataluña	Institut Cartogràfic de Catalunya
Extremadura	Consejería de Vivienda, Urbanismo y Transportes. Dirección General de Urbanismo y Ordenación del Territorio
Galicia	Consejería de Política Territorial, Obras Públicas y Vivienda. Obras Públicas. Servicio de carreteras. Sociedade para o Desenvolvimento Comarcal de Galicia. Area de SITGA
Madrid	Consejería de Obras Públicas, Urbanismo y Transportes. Dirección General de Urbanismo. Servicio Cartográfico
Murcia	Dirección General de Ordenación del Territorio y Costas. Servicio Cartográfico
Navarra	Departamento de Obras Públicas, Transportes y Comunicaciones. Sección de Cartografía
País Vasco	Departamento de Ordenación del Territorio y Medio Ambiente. Servicio de Información Territorial
Rioja, La	Consejería de Turismo y Medio Ambiente. Servicio de Montes
Valencia	Instituto Cartográfico de Valencia

It is interesting to highlight that these entities work with different aims, budgets and realities. Only three of them have the category of cartographic institutes: the *Instituto Cartográfico de Andalucía*, the *Institut Cartogràfic de Catalunya* and the *Instituto Cartográfico de Valencia*. The rest of them are all services with cartographic tasks, but they work within other areas, like, for example, high-ways, planning, urbanism, etcetera. Although we have no details about the total number of geographers working in them, we will try to describe some tendencies regarding the presence of graduates in Geography attending to some specific cases.

The *Instituto de Cartografía de Andalucía* (<http://www.juntadeandalucia.es/obras-publicasytransportes/jsp>) has its headquarters in Seville and was created in 1993, although it started part of its activity some years earlier. The first geographer was incorporated in 1987 for cartographic documentation tasks. Currently, there are five geographers working there, that is, 20% of the total staff. One of them works at the *Departamento de Bases de Datos y Cartografía Histórica* (Data Base and Historical Cartography Department) and the other four at the *Servicio de Información Geográfica* (Geographic Information Service), being one of them the head of the department. For the first time, the new list of vacancies at this institute includes posts which require a degree as a geographer or as an engineer.

The *Instituto Cartográfico de Valenciano* (<http://www.gva.es/icv/>), was created in 1997, being the most recent cartographic institute. It only occupies one geographer –3.3% of the staff– who works in the thematic cartography branch, and, occasionally, in toponymy matters. The fact that this institute was created at the *Escuela Técnica Superior de Ingeniería Geodésica, Cartográfica y Topográfica* of the *Universidad Politécnica de Valencia* explains that most of its specialists are topographers, to the detriment of geographers.

The *Institut Cartogràfic de Catalunya* (<http://www.icc.es>), apart from being the first cartographic institute to be created, constitutes the most interesting case due to the large number of geographers working in it. Currently there are 43 graduates in Geography who represent 17.5% of the staff. They work in such different areas as cartographic edition, geographic information systems, remote sensing, photogrammetric flights, project coordination, map collection, marketing and sales. In the beginning, a special professional body was created, the graduates in cartography, which required a degree in engineering, Physics, Mathematics, Biology or Geography. Nevertheless, a change in the legal system of the *Institut Cartogràfic de Catalunya* in 1997 left out this new body in practice and all the people integrated in it received the working category of graduates.

We can therefore see that the regional cartographic institutes have taken geographers into consideration, which tendency has also been followed by other cartographic services in town and regional councils, as well as in other institutions. It is also important to highlight the comparison in terms of equality of the degree in Geography with other degrees related to territorial matters, such as the different engineering studies or the most recent degrees in environmental science, amongst other. This comparison could have not been thought about thirty years ago, and not only by the cartographic institutions, also by geographers themselves. The capacity of adaptation shown by geographers to work in interdisciplinary groups and to widen their areas of knowledge is notable.

The gradual incorporation of geographers in regional and local cartography posts contrasts with the persistence of a seldom presence of geographers in long-established

national institutes. The most outstanding case in this sense is represented by the *Instituto Geográfico Nacional*, which counts with a really scarce number of geographers at its *Centro Nacional de Información Geográfica*. Not even the project *Atlas Nacional de España* (<http://www.mfom.es/ign/atlas/inicial.html>), started in 1986 and with its first edition finished by 1997, has enlarged the presence of geographers in this centenarian institution. The same thing happens in the cartographic centres of the Army, though the inherent characteristics of its organisation make this fact easier to understand. Even so, in some particular areas, like, for example documentation or at the Historic Map Collection, the military centres have civil staff who are graduates in Geography.

Other areas of the public national administration which are not strictly cartographic, but use plentiful cartography, have started to provide employment for geographers. To mention some examples, there are currently geographers elaborating and supervising maps at the *Secretaría General de Agricultura y Alimentación*, at the *Dirección General de Conservación de la Naturaleza*, or at the private company *Tragsatec*.

4. A PARTICULAR CASE: THE INSTITUT CARTOGRÀFIC DE CATALUNA

The *Institut Cartogràfic de Catalunya* (ICC), created in 1982 and located in Barcelona, is often mentioned when the incorporation of geographers to cartography is being discussed. It was designed as a production centre for the whole process involved in the elaboration of a map, from the photogrammetric flight to its publishing. From the first moment, it committed itself to modernisation. It was one of the pioneer centres in Spain in the introduction of digital processes, digital image processing and publishing of orthophoto maps. In the beginning, during the period when cartographic techniques were changing, the ICC had a lack of specialists who could carry out its ambitious cartographic project. To solve this problem, staff with a technical profile were engaged (computer specialists, physicians, mathematicians, etcetera), as well as geographers, who were at first employed in areas such as cartographic design or documentation, and were later involved in further tasks.

The regional administration of Catalonia was organised in a system of civil servants similar to that of the national administration in Spain. When the first calls were organised to recruit graduates, the ICC had already been working for several years with an interdisciplinary team of graduates in different subjects. For this reason, it was decided to create a body of "cartographers" which required engineers and graduates in Mathematics, Physics, Biology or Geography. For the first time, a degree which had been considered for a long time as an Arts degree, was put on a level with Science degrees. Nevertheless, a close look at the topics for the entrance exams proved clearly that geographers who wanted to participate needed an additional formation which could not be obtained at the departments of Geography. The singularity of the inclusion of graduates in Geography in the body of cartographers was evidenced by the fact that the regional government of Catalonia (the *Generalitat de Catalunya*) later created a Body of Geographers for other tasks related to the territory, being non of these posts for the ICC.

In chart 2 the different calls for graduates are shown: they are for cartographers at the *Generalitat de Catalunya* and they show the number of posts offered and the number of graduates in Geography who passed them (30%). These posts by entrance exams

for the civil service were completed with other posts with regular working contracts (not as civil servants) and a significant number of geographers were, and are still, employed. In 1997 the ICC experienced a change in its legal status becoming a company with public capital, so most of the former civil servants became regular employees. In practice, the body of cartographers lost its activity, as there were only posts available at the ICC.

2)

Call	Date	Number of vacancies	Vacancies given to geographers
34	14.12.1987	7	1
22/88	20.01.1988	21	8
22/90	01.07.1991	8	4
22/92	22.01.1993	13	2
	TOTAL	49	15

By 31st. December, 2003, the total number of geographers employed at the ICC was 43 (34.6% of all graduates). They carried out activities in almost all working areas. Furthermore, there are five geographers among the board of directors, formed by sixteen members. The ICC is, by far, the Spanish cartographic entity with the largest number of graduates in Geography.

The connection of the ICC with Geography is not limited to the observed presence of geographers in its staff. In over 20 years of activity, there has been a special interest to keep in contact with University and to favour training and the incorporation of geographers into different working posts. There is a scholarship programme by which, every year, several students from the departments of Geography of the *Universitat de Barcelona* and the *Universitat Autònoma de Barcelona* have the opportunity of working at the ICC. During this school year (2003-2004), there are 14 students of Geography at the ICC in the areas of edition, toponymy, map collection and sales.

Other ways of collaboration of the ICC with the university world are conferences and courses on cartography given at the departments of Geography. In this sense, since 1990 and during ten consecutive years PhD courses about the History of Cartography were organised in the headquarters of the ICC which led to the publishing of a book collection. A magazine about Geography was also published, the *Revista Catalana de Geografia*, which was later called *Terra*, between the years 1985 and 1993. In short, during all these years, the ICC has not only employed a significant number of graduates in Geography, it has also collaborated with other institutions and has promoted a lot of geographic initiatives.

5. NEW WORKING CONDITIONS

In the past twenty years of presence of geographers in the world of the official cartography, the working conditions have changed considerably. During the 1980's and until the middle of the 1990's, geographers started working in cartographic institutes and services either as civil servants after passing the entrance exams or with normal working contracts. As in most levels of the public administration, this model was saturated by the

end of the 90's. In a few years a lot of people had been engaged, all of them from determined generations. For this reason, the perspectives of renewal of personnel due to retirements were extremely reduced, to which fact we need to add the limited professional mobility.

Nevertheless, in the past five years, new ways of working have started to proliferate. The administration, and in this particular case, the cartographic institutes and services order their projects to external companies or freelance workers. The idea is not to look for geographers or engineers, but to look for companies who carry out tasks related to cartography. Many companies formed by geographers, or companies with interdisciplinary teams, have started to become abundant. These companies do the work ordered by the official institutes. This new modality has even allowed geographers to work for institutions which are totally controlled by specific bodies, like, for example, the *Instituto Geográfico Nacional*.

The definite presence of geographers in cartography has been given, without doubt, by their incorporation in these private companies, which has become more and more abundant. To prove this, we have looked in the Internet at a server specialised in the search of resources and information related to cartography (<http://www.nosolosig.com>). This web site enumerates a total of 291 companies in the mentioned sector in Spain. If we bear in mind that in 1992 there were only 79 companies, we can clearly see the development of this branch. Apart from the traditional topography companies, some new ones have been created which are dedicated, for example, exclusively to GIS (44% of the total). Another interesting fact is that these companies occupy geographers and work, directly or indirectly, for public cartographic entities.

As this is a changing market and as many freelance workers are involved, it is very difficult to know exactly how many geographers work indirectly for a cartographic institute. In this sense, we hope that the recently created *Colegio de Geógrafos Españoles* becomes consolidated so we can have illustrative information about it. It is also important to highlight that, sometimes, the university departments carry out cartographic projects for the public administration. Nevertheless, although this practice allows students a first contact with the working world, these activities have caused complaints from professional associations due to unfair competition (Zoido, 2001:46).

In short, in a little over twenty years, the presence of geographers in cartographic institutes has clearly changed. Although the conditions are quite different, cartography, not only in official entities, but also in private companies, is an important field of activity for geographers.

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THE ASOCIATION OF SPANISH GEOGRAPHERS. “ASOCIACIÓN DE GEÓGRAFOS ESPAÑOLES” (AGE)

RICARDO MÉNDEZ

"Intelligence, as a faculty of the human mind, is found in persons in the concrete sense; but artistic, scientific, social or political creativity emerges, develops, or is hampered within those groups where these human intellects reside – groups which can be more or less intelligent, more or less apt to resolve problems...It is the group that increases or diminishes the power, ability, and effectiveness found in each person." – José Antonio Marina Crónicas de la ultramodernidad, 2000.

1. ORIGIN, SIGNIFICANCE, & INTERNAL STRUCTURE OF THE AGE

The Association of Spanish Geographers (AGE) is the organization that today brings together and represents a large number of professional geographers of Spain. Begun in 1975 as an initiative of the IV National Geography Conference held at Oviedo during Spain's political transformation, it was formally constituted two years later by Professor García Fernández who as president was one of the founders of the project.

For more than a quarter-century, the Association has focused on the "promotion and advancement of Spanish geography science" as proclaimed in the first article of its statutes, as well as to "promote the study of geographic problems" which the International Geographic Union (IGU) claims as its own primary objective. Unlike the objectives pertaining to the College of Professional Geographers of Spain, which the AGE helped to form, the Association has focused on promoting geography as a discipline and serving as a reference point and forum for debate among geographers and others interested in land-use or area-studies issues. This has been without failing the complementary goal of having a presence and representation before social institutions in defense of Geography and the legitimate interests of its professionals.

Formed initially as a non-profit association with statutes adhering to the legal framework provided by the Law for Associations (1964), the AGE underwent several modi-

Spanish Contribution to the 30th Congress (I.U.G. Glasgow 2004)

fications while finally adapting to the Law for Associations of 2002. Its internal structure also underwent a period of adjustment leading to improvements in efficiency and flexibility through a decentralization that is, without a doubt, one of its distinctive hallmarks. The Association's self-government is constituted by a General Assembly and Executive Committee elected by the members to four-year terms. This is in addition to the President, Secretary, and Treasurer, to whom are added eight committee members in charge of various activities. There have been since then seven presidents, while more than fifty geographers have held positions on the Board.

But the Association's most identifying organizational and operational characteristic is its Working Groups. The progressively greater number of association members in scarcely more than a decade, coupled with increased diversification of its scientific interests, professional careers, and the subjects covered by Geography, advised the formation of these Working Groups to reinforce ties between the parties interested in various areas of research and investigation. Having selected their leadership on a periodic basis, these Working Groups have since become a central part of the AGE while exerting their own considerable independence and resources. This came about not only because of the great number of activities organized, but also because of the characteristic open-ness and cooperation with non-geographer professionals regarding cross-over issues of mutual interest. The number of Working Groups has now increased to fourteen, while some of the difficulties they have faced have meant the implementation of rules to ensure greater and more efficient coordination between them.

Table 1. Working groups (2003).

1. Physical Geography	8. Urban Geography
2. Climatology	9. Regional Studies
3. Population Geography	10. Geography of Latin America
4. Economic Geography	11. Local Development
5. Geography of Services	12. Teaching Geography
6. Geography of Tourism & Recreation	13. Quantitative Methods, Remotesensing, and GIS
7. Rural Geography	14. History of Geography

However, beyond its organizational structure, in its is defined by the contributions made by its members and their activities, as reflected in the Association's internal dynamics, goals, and values.

2. MEMBERSHIP: EVOLUTION, CHARACTERISTICS AND DISTRIBUTION

From the moment of its creation, the AGE has been closely linked to universities, to which belonged almost all of the 200 members registered by the end of 1977. While its evolution since then has meant considerable diversification in both spatial and occupational terms, university professors and researchers at the Spanish Council on Advanced Scientific Studies (CSIC) represent the majority. Non-university teaching professionals, public administrators, business-people, as well as research fellows, complete

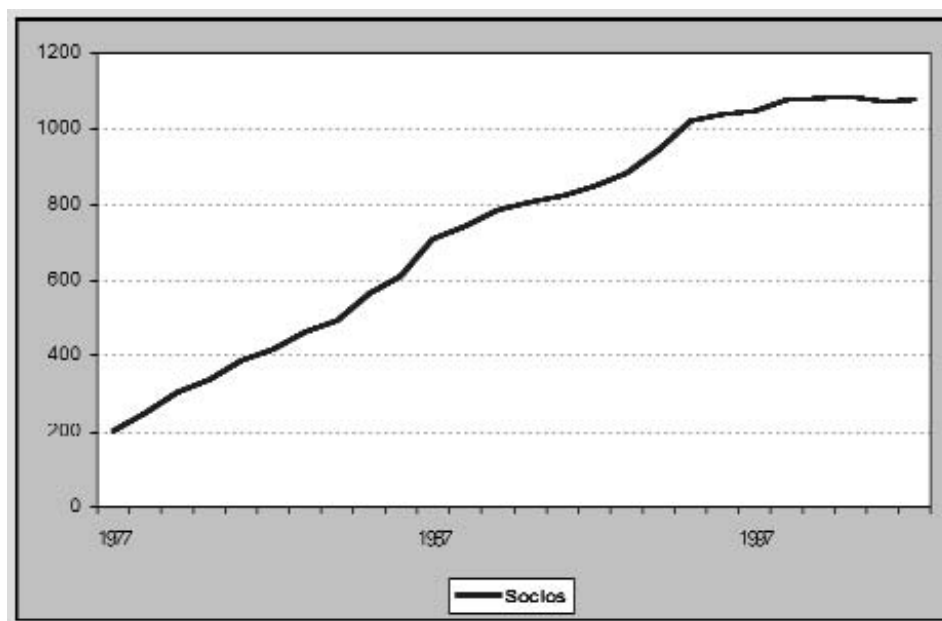
the more than one thousand members belonging to the Association today. A glance at its development and increase in membership, confirms that it is now a mature organization.

After an initial period of uncertainty over its utility and results, there was a doubling of the 200 founding members followed by an increase to 600 by 1986, 800 in 1990, and 1,000 in 1995. This coincided with the creation of new universities in numerous mid-sized cities as well as increased faculty size in others. Since that time, the tendency revealed in the following graph (Figure 1) confirms that period of stability has been achieved in which there have been slight annual increases in the light of a fairly balanced equilibrium of highs and lows until reaching a membership number very close to 1,100.

This trend towards stability, which should serve the directors of the Association well as they plan for the future, is nevertheless quite common among other similar professional associations and can be understood by combining several different factors.

In the first place, while the presence of the AGE in university life is already quite notable, the low replacement rate of faculty members presents a situation entirely different from earlier periods. At the same time, the creation of the College of Professional Geographers groups together a great number of geographers (whose work is only slightly related to academia) as well as many recent university graduates who, having no prospects of teaching or research jobs, are quite worried about finding placement on the job market. The Association and the College both, therefore, offer affiliations that geographers should understand as being complementary which is without a doubt one of the many reasons for collaboration between the two. Finally, even though Spain has no association for non-university geography teaching professionals as in France and Portugal, AGE's ability to offer an organizational structure to this important group appears to be limited. This is despite the valuable and continued efforts by some teaching professionals and is thereby a pending challenge for the immediate future.

Figure 1. **Membership growth, 1975-2003.**

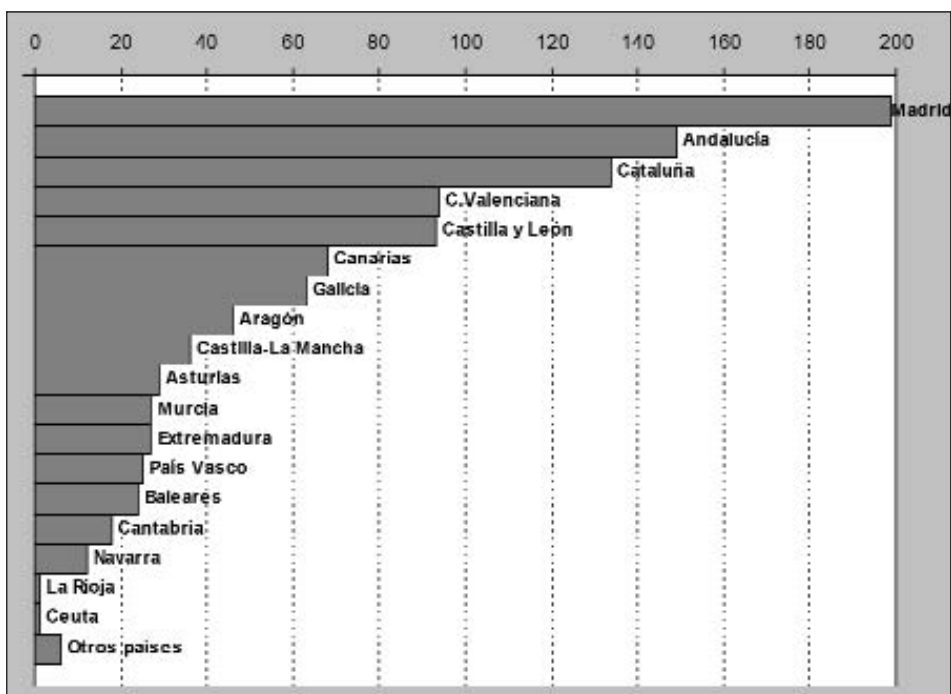


As a result, the Association currently has a quite consolidated membership, as reflected by the number of members registered by the end of 2003 and for each of the preceding years. As opposed to the 98 memberships registered during the current decade, there were 394 added in the 1990s, 353 in the 1980s, and the 212 of the start-up period. At the same time, these numbers present a symptom of the leveling-out of memberships registered; there were 35 new memberships registered per year during the 1980s, rising to 39 per year in the 1990s and then falling to 33 per year in the current decade.

As for geographic distribution, Figure 2 shows that members are found all over the map of Spain. Even so, there are quite noticeable contrasts between regions and provinces, reflecting disparities in population distribution and, more importantly, the distribution of institutions of higher learning and research as show in the bar graph below.

Madrid, Andalusia, and Catalonia, with their 482 members, constitute 45 percent of the total: a proportion that almost equals the two-thirds achieved by adding to this sum both Valencia and Castile/Leon. On the provincial scale, this relative concentration is similar. The seven provinces or communities with the greatest number of members are: Madrid (199), Barcelona (101), Seville (58), Alicante, (45), Corunna (42), Saragossa (40), and Valencia (38), thereby representing half of the total and becoming two-thirds of the total when the Canary Islands, Valladolid, and Granada are added.

Figure 2. **The distribution of Association members by Autonomous Communities (2004).**



At the opposite extreme on the regional scale, there are only 111 members (10.5 per-

cent of the total) in the regions, such as Extremadura, Castile/La Mancha, and the Basque Region (88 members, 8.4 percent). Foreign memberships (6 total) are also quite telling in view of the fact that the Association has reached dual-membership agreements with other European associations.

A simple comparison of the number of the Association's members with those of the "Colegio" of Professional Geographers in May 2003 (Table 2) spells out some very significant contrasts, especially in the cases of Catalonia, Cantrabria, Balearic Islands, Aragon, and Madrid, which show marked contrasts between geographers in the different regions.

Table 2. Regional distribution of AGE and "Colegio" of Professional Geographers memberships.

<i>Autonomous Community</i>	<i>AGE Members</i>	<i>College Members</i>	<i>Autonomous Community</i>	<i>AGE Members</i>	<i>College Members</i>
Andalusia	149	134	Valencia	94	84
Aragón	46	10	Extremadura	27	9
Asturias	29	27	Galicia	63	44
Balearic Islands	24	67	Madrid	199	71
Canary Islands	68	43	Murcia	27	14
Cantabria	18	85	Navarre	12	2
Catalonia	134	210	Basque Region	25	11
Castile/La Mancha	36	11	Rioja	1	0
Castile/Leon	93	55	Others	7	3

3. GROWING DIVERSIFICATION OF ACTIVITIES

The process of consolidating two scientific and professional associations implies a broadening and reorienting of objectives, which means not only an increased number of activities but also changes in the material and human resources applied in each case. Posed with this difference in the visions of two organizations, which would mean reviewing the various evolutionary stages in the Association's activities, it seems more appropriate to offer here a systematized overview of the work it has accomplished in the last few years and to take into account the labors of the current Executive Committee as summarized in Figure 3.

The Association has offered direct support of advancements in the science of geography in Spain since its foundation, resulting in a greater number of accomplishments and resource investments in that time.

Even though there had been precedents, the V Colloquium on Geography held in Granada (1977) can be considered the onset of the uninterrupted series of the biannual Congress of Spanish Geographers, which has become one of the essential continuing elements of the Association. Organized by Geography Departments of various Spanish universities, its structure and contents have undergone constant improvements to ensure effectiveness and adaptation to new social and scientific realities. However, general conferences and workshops, as well as round-tables, expositions and field studies, have been the most usual means of organizing the Congress. The XVIII Congress was held in

2003 at the Barcelona Autonomous University with "Geographies for a global society" as its theme, thereby highlighting not only its durability but also considerable capacity for renewal.

In a similar and very important way, AGE organizes the Iberian Colloquiums on Geography in conjunction with the Association of Portuguese Geographers. Conceived some three decades ago as a vehicle of exchange and cooperation between the geographers of both countries, they are held alternately every three years in each country. While the first Iberian Colloquium was held at Salamanca University, it was Huelva University that held the IX Colloquium in 2002. The future of the colloquiums is assured by the two associations, while the next colloquium will be held in 2005 in the city of Evora. Finally, the Working Groups involved in the Association hold meetings on more specific research topics, as well as field studies and other complementary activities, with frequent participation of non-Association professionals.

In addition to scientific meetings, publishing is a second fundamental part of the Association's work. Since 1984, the Association's half-yearly "Bulletin" has become then through several editorships and boards one of the geography journals most esteemed by the Center on Information and Scientific Documentation of the CSIC. It adheres fully to the international standards applied by the "Latindex" system. The adoption of standards used by prestigious scientific journals such as an international advisory council, anonymous external checks and balances, and regular publication, have also included the updating of thematic material especially notable in the variety of monographs and miscellaneous articles as well as the journal's distribution to non-members. In the last four years, examples of this re-orientation have included the publication of monographs such as "Natural risk factors", "Region and new regional geography", "Cultural Geography", "Innovation and local factors in the new economic spaces", and the emergence of an on-line magazine. Quarterly publication of "Geographic News", books such as "Rural landscapes of Spain" (1980), and the publication of "Geography 21" (an overview of geography) makes the Association one of the most important geographic institutions in Spain.

An important function of any professional organization is to advocate itself as an institution, so as to increase the all-important knowledge and appreciation of its professional and scientific status on the part of public institutions and society. On a regular basis, the Association has made its presence known while offering its advice and counsel to the Spanish Ministry of Education when legislation arises affecting the status of geography education at all levels. Lobbying government institutions such as the Congress of Deputies, Senate, and Ministries to claim a greater role for geography and teaching in light of the Law for Quality Education (2002), and participation in the process of the establishment of the European System of Higher Education, envisioned by the Bologna Declaration, are just two of the most recent efforts that require constant attention despite uneven results so far. The recent defense raised before the Spanish National Commission on Research Evaluation towards objective criteria and complete transparency in evaluating university research results, as well as a greater presence of geographers in the evaluation process, are among the tasks where collective action appears to be the only means of obtaining a good result.

Another notable task of the Association is in the area of international relations and maintaining links with the International Geographic Union (IGU) and associations in

other countries. The Association is actively involved in the Spanish Committee of the IGU, where it shares the committee presidency and vice-presidency alternately with the Royal Geographic Society (RSG) of Spain. It has participated in all of the international congresses organized by the IGU, thereby making public Spain's contributions to these events. It has signed agreements with the Association of Portuguese Geographers (APG), the Association Française pour le Développement de la Géographie (AFDG), and the Institute of British Geographers (IBG) to foster dual membership and joint activities. However, it should be recognized that this is an area where the results achieved thus far on the institutional level have not matched the density and frequency of the continuous exchanges between the geographers of these countries and especially Latin America.

A third field of action is the development of teaching, research, and the profession of geography, which implies collaborating on projects with other institutions. The Committee set up to maintain relations with the College of Professional Geographers has tried since 2001 to improve inter-relationships between the teaching of geography at the university level and the specific demands made upon the profession by our society at large. While the Committee at first undertook an opinion survey of 100 university professors and geographers working in business and administration as a basis for diagnosis, this initiative was later integrated during the process of adapting the degree of Geography as required by the process of European unification.

The Association has had an important role in incorporating Spanish geographical studies in the European Higher Education Space. At the Association's initiative, all university-level geography departments were invited to debate this issue in June 2003, resulting in the study "Certificate in Geography and Land-use Planning" financed by the National Agency for Quality Evaluation and Accreditation of Spain (ANECA). As part of its involvement, the Association collaborated with representatives of these departments on data collection, analysis, and dissemination of results while gathering ample documentation on the state of geography teaching, current supply and demand for degrees, job outlook and employability of geographers. It also examined unmet demands of the labor market so as to achieve better access to jobs, providing a basis for diagnosis that had been unknown in Spanish geographic circles. The final document that was presented in March 2004 provides an opportunity to achieve effective renewal of the teaching of geography and also defines a model for cooperation that goes beyond the inevitable differences of opinion and conflicts of interests; it should be considered as a collective means to confront the important challenges that Geography and geographers face in the future in order to secure their place in society.

Even while university-level teaching has been the usual focus of the Association's attention, by acknowledging the demands of primary and secondary-school teachers it has opened up new channels and produced initiatives which will require follow-up. This is the case, for example, of the Geography Teaching Committee formed in 2002 by teaching professionals at various levels to advise the AGE Executive Committee, and as a complement to the Committee on Research that is in charge of periodic reports on developments in Spanish geographical research. Along these lines, an agreement was signed with the National Geographic Institute of Spain in 2004 to cooperate in making teaching materials available electronically to secondary-school teachers and students. This effort is part of the goal of making teaching tools available on the Association's website, a proposal which is included in its most recent set of activities.

This last issue is related to the spreading of general awareness of Geography and area studies, which is one of the most significant deficiencies in efforts in making known the work of geographers while achieving greater visibility and acceptance of our discipline in society. The development of the Association's website is one of the most important media in this effort, as demonstrated by the more than 25,000 visitors to the website in the year since it went on-line. In addition to quick news updates and information on congresses, meetings, seminars, etc., and the great number of links with other geographic organizations, departments, and resource centers, the volume and quality of information has grown especially since the incorporation of the on-line version of the "Bulletin". There is also a special section, "Current Trends", which highlights opinions of noted geographers, current events, and debates among geographers. An oil spill on Galicia's coast, the National Hydrological Plan, the war in Iraq, reform of the Common Agricultural Policy and its effects on Spain, the reconfiguration of the map of the EU, immigration to Spain, or debates over the Spanish land-use plan, are examples of articles and opinions, while there are also debates on the Bologna Declaration, the language of geography, the internationalization of research, and others. Within a short time, "Teaching Resources" will be incorporated in the Bulletin as a special section with materials and experiences in support of teaching geography at all levels of education to complement the Association's effort to provide benefits to the public in fora that are becoming more diverse..

"Geography Awareness Workshops", a collaboration with other institutions to make known the work of geographers, is another means towards the same goal. Begun in 2002 with workshops at the University of Oviedo in the International Year of Mountains, they continued in 2003 with "Workshops on Heritage and Development" at Ubeda and Baeza with help from several public institutions. The cooperative agreement reached with Interpon-Oxfam concerning development issues has meant a recent outlay of 0.7 percent of the Association's budget, a full-page advertisement in the Bulletin, and the addition of a link on its webpage.

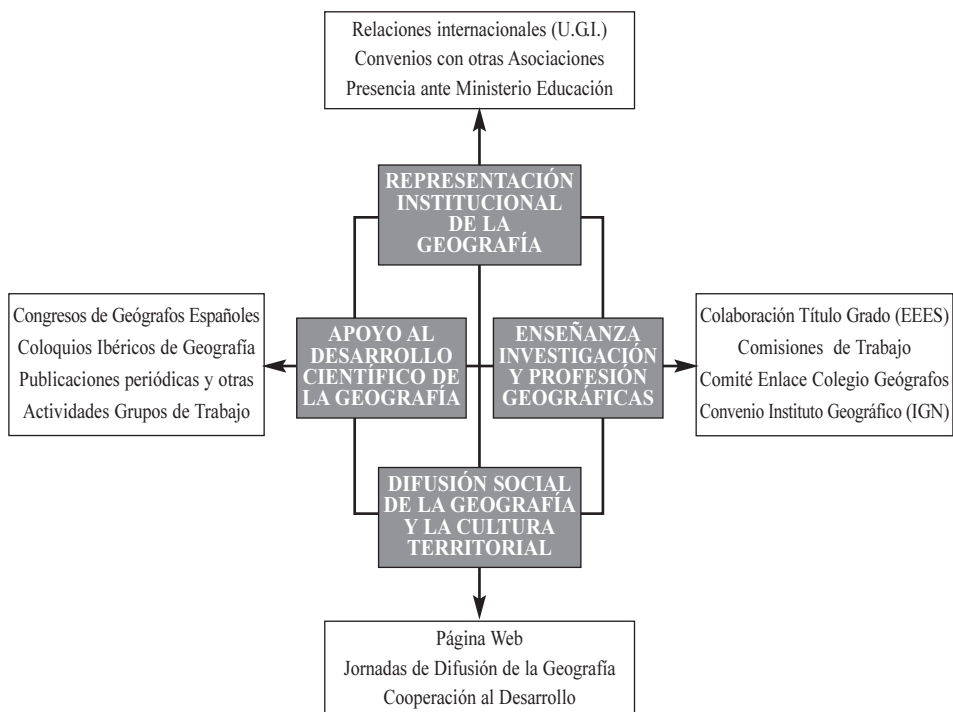
The Association of Spanish Geographers has come a long way, despite some setbacks, since its inauguration. Along the way, it has accumulated a significant store of geographic knowledge, culture, and identity, as well as the fruits of the sometimes anonymous labors of successive boards of directors, working groups, committees, congresses and meetings contributing to a collective accomplishment.

But the life of every organization goes on and, while an occasional glance backwards is necessary to observe the road taken and achievements made thus far, or to re-examine past missteps, its basic job is to plan and work towards its future. Therefore, if we wish the Association to be capable of developing this collective intellect even further as is normal in innovative regions and organizations, then it should work towards making even stronger its already existing internal network as well as domestic and international networks between professionals, associations, and public institutions. These networks should provide flexibility for rapid adaptation to the changing demands of our society, however, without losing the identity that continues to define Geography and geographers as experts in area studies involved in research, interpretation, planning, and other activities.

It is obvious, however, that the life of any association is not made up solely of projects and activities but also debates and conflicts that reflect the diversity of values, inte-

rests, and attitudes found at its very core. Our Association's capacity for resolving these debates and conflicts should be strengthened, thereby making transparency, information-sharing, and dialogue the norm in our operations while avoiding any exclusiveness that might hinder the efforts of all involved in striving for the common goal.

Figure 3. **Objetives and activities of A.G.E.**



THE *SOCIETAT CATALANA* *DE GEOGRAFIA*

FRANCESC NADAL PIQUÉ

The *Societat Catalana de Geografia* (Catalonia's Geographic Society) was created in 1935. It is a late creation if we take into account that main European geographic societies were created in the 19th century (Paris in 1821, Berlin in 1828, London in 1830, Lisbon in 1875, Madrid in 1876) (Rodríguez Esteban, 1996, 287-313). Its incorporation, however, closed a long and complex process began at the end of the 19th century to provide Catalonia with a geographical society.

The first step taken was the incorporation of the *Societat Geogràfica de Barcelona* (Barcelona's Geographic Society) in 1895. This society was chaired by Josep Ricart i Giralt (1847-1930), the director of Barcelona's *Escuela de Náutica* (School of Navigation), and its board members were Manuel Escudé i Bartolí, the first director of the *Servei d'Estadística del Ayuntamiento de Barcelona* (Barcelona Town Hall Statistics Service), Eduard Fontserè i Riba, the first director of the *Servei Meteorològic de Catalunya* (Catalonia's Meteorological Service) and Josep Fiter i Inglès, a founder member of the *Centre Excursionista de Catalunya* (Catalonia's Outings Centre). The society's main promoter was the economist Frederic Rahola i Trèmols (1858-1919), the secretary of *Foment del Treball Nacional*, the largest Catalanian industrial bourgeois employers' association. The *Societat Geogràfica de Barcelona* was linked to the trading and colonial interests of this employers' association and its life was short (it was wound up in 1898); the Society published four issues of its journal *Boletín de la Sociedad Geográfica de Barcelona* (Moreno Rico, 1995, 183-185).

The second step took place in 1909, when the *Societat de Geografia Comercial de Barcelona* (Barcelona's Trading Geographical Society) was incorporated. Its creation was linked once again to trading and colonial interests of the same association *Foment del Treball Nacional* (Costa Ruibal, 1995, 40-45). The new geographic society was very active until 1920s, when it merged into the *Cámara de Comercio de Barcelona* (Barcelona's Chamber of Commerce). The *Societat de Geografia Comercial de Barcelona* was incorporated after Spain had lost its last colonies abroad and it acted as a commercial information agency for Catalanian investments abroad. Its president was the economist Francesc d'A. Mas, who later on will be one of the board members of the

Feria Oficial e Internacional de Muestras de Barcelona (International Exposition and Fair in Barcelona).

In its ten-year-long life, the *Societat de Geografia Comercial* organised the Second Spanish Congress on Colonial and Trading Geography, held in Barcelona in 1913 with the participation of different geographers such as Rossend Serra i Pagès or Emilio Huguet del Villar. It also published an interesting series of geographic texts by renowned Catalan geographers such as Francesc Carreras i Candi or Josep Ricart i Giralt. Moreover, the society's activities attempted to recover Middle-Ages Catalan maps or to make a glossary of geographical terms in the Catalan language (Nadal, 1991, 11-12).

THE SOCIETAT CATALANA DE GEOGRAFIA: THE CONSTITUENT PERIOD

After its winding up, the society's trading and colonial goals were increasingly replaced by new cultural approaches. The lack or the scarcity of official geographic studies in Catalonia in the first third of the 20th century made the creation of a geography-promoting society necessary for most Catalan geographers and scholars. Thus, the Architect Josep Puig i Cadafalch and the Historian Francesc Martorell published a report on the need to restore Geographic studies in Catalonia in the journal *Anuari de l'Institut d'Estudis Catalans* issue for years 1927-1931. The report requested, among other things, the creation of a geographic society dependent of the *Institut d'Estudis Catalans* (Institute for Catalan Studies).

On May 13th, 1931, some weeks after the Spanish Second Republic was proclaimed, Francesc Martorell and Eduard Fontserè, members of the *Institut d'Estudis Catalans'* Historic-Archaeological Section and Sciences Section, respectively, prepared a joint paper to study and set the basis for a «geographic office» (Balcells, Pujol, 2002, 291). In 1933, once the *Societat Catalana de Ciències Físiques, Químiques i Matemàtiques* (Catalan Society for Physics, Chemistry and Mathematics) was consolidated, Eduard Fontserè thought it was the time to create a geographic society within the *Institut d'Estudis Catalans* (Balcells, Pujol, 2002, 291). The *Societat Catalana de Geografia* became a reality in 1935, when it was created as an affiliate of the *Institut*.

Its first president was the geographer Pau Vila i Dinarès (1881-1980) and its first board was made up by geographers Pere Blasi, Lluís Solé i Sabarís, Enric Ribes i Virgili, Josep Iglésies i Fort and Eduard Fontserè, who was the representative of the *Institut d'Estudis Catalans*, a position he held until his death in 1970. The *Societat Catalana de Geografia's* member no. 1 was Josep Puig i Cadafalch, who was the President of the *Mancomunitat de Catalunya* (Catalonia's Commonwealth) from 1917 to 1923.

In November 1935 the first academic course organised by the Societat took off; the first event was a conference read by Pau Vila on «Allò que s'havia fet en geografia a Catalunya des del temps més reculats fins al moment present». In the academic year 1935-1936, there were other fourteen conferences; the most relevant ones were «Visió d'algunes localitats catalanes» by the British geographer E.H.G. Dobby, «L'Onomasticon Cataloniae» by the Philologist Joan Corominas or «Estat del Mapa de Catalunya a escala 1:100.000 publicat per la Generalitat» by Josep Puig i Cadafalch.

On January 20th, 1936 the board met for the first time at the *Casa de la Convalescència*, a hall in the former *Hospital de la Santa Creu*, that was the *Institut*

d'Estudis Catalans' headquarters during the Second Spanish Republic. The board decided, among other things, to prepare a trip to the Guillerries Massif with a group of French geographers, led by Emmanuel de Martonne, for the month of July. Later on, Pau Vila, Eduard Fontserè and Josep Iglésies, as members of the *Societat Catalana de Geografia*, were to present to the new Public Education minister, the Republican Marcel·lí Domingo, the advisability to create a School of Geography (Iglésies, 1989, 13).

The Civil War outbreak in July 1936, however, cut short the board's happy expectations. The trip to the Guillerries Massif was cancelled, as well as the publishing of the first volume of the Societat's yearbook. The activities of the *Societat Catalana de Geografia* were practically stopped during the three years of the civil war.

SILENCE AND ACTIVITIES RETURN (1939-1970)

The establishment of Franco's regime took place after Barcelona's occupation by the so-called «national» army on late January 1939, and it gave place to a long silent period defined by Josep Iglésies as the «Geography in the Catacombs». Some members of the first board had, as many other scientists and intellectuals that backed the Republic, to go into the exile: Pau Vila or Pere Blasi, for instance. Other members, such as Eduard Fontserè or Josep Iglésies, were banished or were left aside of the new cultural or university order after the victory. Enric Ribes i Virgili, a scholar of Catalanian cartographic history, had died in an unlucky railway accident in 1938. Thus, Lluís Solé i Sabarís was the only member of the first board that, after overcoming certain obstacles, continued with his career within the new and purged Franquista university system.

The *Institut d'Estudis Catalans* re-started its activities, although in very poor conditions, in 1942 (Balcells, Pujol, 2002, 318-328). The activities of the *Societat Catalana de Geografia* were resumed five years later, when the yearned-for defeat of the totalitarian cause that put an end to the Second World War forced the Franquista authorities to open somewhat the regime. Thus, in December 1947, they took advantage of the new political situation and the society held its first scientific meeting after the Civil War at the private address of its Secretary, Josep Iglésies (Iglésies, 1989, 15). A year later, in December 1948, the second board of directors was established; its chairman was Ramon Bataller (1890-1962), a Geology university full professor in the *Seminari Conciliar in Barcelona*. The other members were Pere Blasi, Josep Parunella, Josep de C. Serra i Ràfols and Josep Iglésies, that still held the Secretary office. Bataller led the society in years that were, in words of Lluís Casassas, «some of the most difficult ones for the Societat, in particular, and for the Catalanian culture, in general» (Casassas, 1989, 56). In the academic year 1948-1949, a series of conferences was pronounced at Josep Iglésies' private address; the most relevant of said conferences were «La vegetació de Catalunya» by botanist Pius Font i Quer, «Els trets geogràfics de l'agricultura mediterrània», by geographer Joan Vilà i Valentí, «Pere Gil i els manuscrits de la seva geografia set-centista de Catalunya» by Josep Iglésies and «L'evolució del relleu de Catalunya i Andorra» by Lluís Solé i Sabarís.

Although the society was not officially recognised, it continued with its activities in the following years. Thus, in 1951 the board decided to resume collecting Catalanian place names and published in 1952 Josep Iglésies' work, *Toponímia dels termes municipals*.

pal i parroquial de la Riba. In 1954, the archaeologist and pre-historian Josep de C. Serra i Ràfols (1902-1971) was appointed to the Societat chair and held it until 1970. In his long and troublesome office, some of the most relevant Catalan geographers, cartographers, anthropologists and naturalists working in those years participated in the series of conferences. Such was the case of geographers Maria de Bolòs, José Manuel Casas Torres, Jaume Codina, Pierre Deffontaines, Josep Iglésies, Salvador Llobet, Pilar Riera i Figueras, Lluís Solé i Sabarís, Joan Vilà i Valentí and Pau Vila i Dinarès; of Historians Agustí Duran i Sanpere, Emili Giralt, Ernest Lluch, Joan Maluquer de Motes, Joan Mercader Riba and Jordi Nadal; of anthropologist Ramon Violant i Simorra or of naturalists Oriol de Bolòs, Francesc Masclans and Carmina Virgili. Until the academic year 1960-1961, the Societat's acts always took place at Josep Iglésies' private address. Pau Vila's first post-Civil War conference was on «La Geografia de Veneçuela» and took place in 1960.

The academic year 1961-1962 took place in the *Centre Comarcal Lleidatà* (Lleida's County Centre). Later on, from 1963 to 1967, conferences were pronounced in the Institut Cultural del *Centre d'Influència Catòlica Femenina* (Catholic Female Cultural Centre) and, since 1968, they took place on the main floor in the Palau Dalmau in Barcelona, the headquarters of the *Institut d'Estudis Catalans*. In that period, the *Societat Catalana de Geografia* published works such as *La sismicitat a Catalunya* by Eduard Fontserè, *Les zones de vegetació a Catalunya* by Oriol de Bolòs or *La població catalana al primer quart del segle XVIII* by Josep Iglésies. In 1966-1967, the *Societat Catalana de Geografia* organised, jointly with the *Centre Comarcal Lleidatà*, a conference cycle with the title: «Lleida és part integrant de la Catalunya estricta». The society wanted to reply to the attempts to separate the province of Lleida from the rest of Catalonia made by different Franquista authorities (Iglésies, 1989, 24).

RECOVERY OF INSTITUTIONAL NORMALITY

At the end of 1970, Josep Iglésies i Fort (1902-1986) was appointed as the fourth chairman of the *Societat Catalana de Geografia* and its board was renewed: Enric Lluch, Lluís Casassas, Carles Alabart and Jordi Borja, although the latter, a renown anti-Franquista fighter, had to leave the position due to political reasons, and was replaced by geographer Maria de Bolòs. She was the first woman in a board of directors. The board was renewed in relation to gender, and to scientific level and generation as well (Tort, 2000, 206-208). Most of the new board members were around forty and fifty years of age and were linked to Catalan University Geography, that had suffered a significant change when the Geography Department was created in the *Universitat de Barcelona* in 1966 and in the *Universitat Autònoma de Barcelona* in 1969 (Vilà i Valentí, 2002, 150). Besides, Pau Vila, who had returned from exile in Colombia and Venezuela in early 1960s, was appointed in 1970 the representative of the *Institut d'Estudis Catalans*, office held till his death in 1980.

In 1972, the geologist and geographer Lluís Solé i Sabarís (1908-1985) was appointed the new chairman, and will held the office till 1981. The ten years of his term are accurately thought to be the time of the Societat's consolidation (Casassas, 1989, 59). Solé i Sabarís was the first Societat president that, at the same time, was a university full

professor. A fact that strengthened the links existing between Catalanian University Geography and the *Societat Catalana de Geografia*. During his term, conferences were organised in specific geographical subject matters: the Balearic Islands, Catalonia's regional atlas, Barcelona's urban quarters. In order to achieve a better working, three committees were created: Publications, led by Lluís Riudor; Outings and Trips, by Lluís Casassas, and General Tasks, directed by Lluís Solé i Sabarís.

Outings and Trips was much promoted; there were working trips to Girona (1973), Manresa (1973), Igualada (1975), Puigcerdà (1976), Montblanc (1976), Vilafranca del Penedès (1977), Granollers (1978), Sant Joan de les Abadesses (1979) and Figueres (1980). During Solé i Sabarís' term, geography courses and workshops were taught; Pau Vila and Lluís Casassas gave the first one on Barcelona's Urban Geography. Besides, there were contacts with other Spanish colleagues; the most relevant moment was when the Board of the *Asociación de Geógrafos Españoles* (Spanish Geographers Association) visited Barcelona in 1978 under Solé i Sabarís' direction, as the Societat's chairman (Casassas, 1989, 62).

During Solé i Sabarís' term, the number of board members that were university professors increased much: Salvador Llobet i Reverter, Carles Carreras i Verdaguer, Maria Sala i Sanjaume, Lurdes Garcia i Lanceta and Josep M. Panareda i Clopés from the Universitat de Barcelona and Lluís Riudor i Gorgas and Antoni Tulla i Pujol from the Universitat Autònoma de Barcelona. In the first years, board meetings were held at Solé i Sabarís' private address while public acts were held at the Palau Dalmaes.

In 1975 the *Societat Catalana de Geografia* published *Miscel·lània Pau Vila*, thanks to the Editorial Montblanc-Martín, owned by the cartographer Josep M. Puchades, in celebration for its first president. In 1978, the journal *Revista Catalana de Geografia* was launched. Its publishing was possible thanks to Josep M. Puchades, its patron and owner. Puchades was its director until 1982 and its first editing board was made up by geographers Pau Vila, Josep Iglésies, Enric Lluch, Maria de Bolòs, Lluís Casassas and Carles Carreras. After its issue no. 5, published in 1979, Joan Vilà i Valentí, Vicenç M. Rosselló, Bartomeu Barceló and Joan Becat joined the editing board. Until 1982, when Josep M. Puchades died, they had published eighteen issues. In 1985, the journal was published again but it was not related any more to the Societat. *The Generalitat's* (Catalonia's Government) Land Policy Department had acquired the rights on the journal and have made it the *Institut Cartogràfic de Catalunya's* journal (Biete, 1992, 37; Nadal, 2003, 991-992).

In 1980 the geographer Salvador Llobet i Reverter (1908-1991) was appointed chairman and held the office until 1985. He continued the work started by Solé i Sabarís and turned the Societat into a geographical body with a «normal life» (Casassas, 1989, 63). Geographer Lluís Casassas was the vice-chairman and the board was renewed with geographers such as Pilar Benejam, Enric Bertran, Joaquim Cabeza, Helena Estalella, Francesc Nadal and Benjamí Sabiron. When Pau Vila died in 1980, Josep Iglésies was appointed the *Institut d'Estudis Catalans* representative in the Societat, an office he held until his death in 1986.

Llobet's term were also the years when democratic regime consolidated in Spain and when the restored Autonomous Government or *Generalitat* built up in Catalonia. The new policy resulted in the return of the *Institut d'Estudis Catalans* to the *Casa de la Convalescència* in 1982 (Giralt, 1995, 11). From that moment, both the Societat's board

meetings and public acts took place at the re-gained official headquarters.

The Societat's progressive establishment allowed inviting well-known geographers, either from other Spanish communities or from other countries, to participate in the conferences. Thus, in 1981, professors Bernard Kayser (Université de Toulouse), Georges Bertrand (Université de Toulouse), Eraldo Leardi (Università di Genova), Paul Claval (Université de La Sorbonne) and Josefina Gómez Mendoza (Universidad Autónoma de Madrid) participated in the annual course. In 1982 the Societat was invited by the *Real Sociedad Geográfica de Madrid* to join the Standing Commission of the IGU Spanish Committee.

In 1984 the journal *Treballs de la Societat Catalana de Geografia* was launched. A year later, the Societat organised in Barcelona the third meeting of the IGU's International Working Group of Textile Geography, and its 50th anniversary was celebrated at Barcelona's Town Hall's Saló de Cent with the attendance of the then-Major, Pasqual Maragall.

In 1985 geographer Lluís Casassas i Simó (1922-1992) was appointed chairman due to Salvador Llobet's delicate health. Casassas held the office until June 1991. During his term, other university Geography professors joined the board: Rosa Ascon, Maria Dolors Garcia Ramon, Roser Majoral, Enric Mendizàbal and Joan Tort. While other young geographers, who had been his students, joined the society: Dolors Batallé, Montserrat Cuxart and Miquel Jaumot. In 1986, Marc Aureli Vila was appointed the *Institut d'Estudis Catalans* representative in the Societat; he held the office until his death in 2001.

Trips and outings were organised in this period: Solsona (1986), Priorat (1987), Berga and Alt Berguedà (1988), Torà de Riubregós and Vallferrosa (1988), Baix Penedès (1989), Prat de Llobregat (1990), Fraga (1990) and Lluçanès (1991). A total of 27 courses and workshops were held; they dealt about very different geographical subjects: «The Geography of Gender», directed by professor Eleanor Kofman of the Middlesex Polytechnic of London (1987), «An analysis of recent growth of Madrid's agglomeration», directed by professor Josefina Gómez Mendoza of the Universidad Autónoma de Madrid (1988) or «The Mediterranean landscape: the Eastern Pyrenees and Sierra Nevada», directed by professor Antonio Gómez of the Universitat de Barcelona (1990).

The journal *Treballs de la Societat Catalana de Geografia* was very active; from 1985 to 1991, 24 ordinary issues and a special volume on Catalanian geography were published. In this sense, Lluís Casassas' personal contribution to the establishment of *Treballs* as a publication of reference within Catalanian geography was crucial and it must be assessed as one of the main achievements of this period (Riudor, Albet, 2000, 214-215). Besides, Casassas, like Solé i Sabarís, did not just turn the Societat into an academic institution but he committed and involved it in land Catalanian problems. Thus, the Societat organised in 1989, jointly with Barcelona's County Council, the «*Jornades sobre Regionalització i els Ens intermedis*», the working sessions on problems of Public Administration land organisation problems.

The success of these working sessions prompted Casassas to organise the major activity during his term: the «*Primer Congrés Català de Geografia*» (First Catalanian Geography Congress). In June 1990 the congress notice was published; the congress took place on March 1991 (Biete, Bertran, Cuxart, 1992, 72-74). Lluís Casassas pronounced the opening conference on «*La continuïtat de la geografia catalana*» and geographer Peter Gould, of the Pennsylvania State University, closed the congress speaking about

«Helping Others to be Geographers». In this congress, nine conferences, 24 reports and 68 papers were presented on different geographic subjects such as Population Geography, History of Catalanian Cartography or Catalonia's urban Geography. Each conference was read in a different Catalanian town, where exhibitions and visits were prepared for the attendants. The *Societat Catalana de Geografia* published the conferences, reports and papers in four volumes in 1991. This congress was a milestone in the Societat history; it marked a moment of organizative inflection.

Lluís Casassas did not present himself in 1991 to the re-election as President because the previous year he had been appointed to the History and Social Sciences Section in the *Institut d'Estudis Catalans*. Vicenç Biete i Farré was elected as chairman in 1991; he held the office until June 2000. Biete had joined the Board under Solé i Sabarís, was well connected to the *Centre Excursionista de Catalunya* and had studied with Lluís Casassas in Solé i Sabarís' class when he taught in the Institut Escola during the Second Republic (Biete, 1992, 35). Casassas was a board chairman-assistant member until he died in 1992, and Maria Dolors Garcia Ramon was the vice-president until 1993. Lluís Casassas' death was hard for the Societat, as he had devoted all his time to the society and had strong intellectual and affective links with many board members and most of the members.

Vicenç Biete, however, was able to solve the Societat's difficulties; the most important and urgent of them was the important economic deficit generated by the «*Primer Congrés Català de Geografia*». In June 1993 Roser Majoral i Moliné became the vice-president, followed in June 1996 by Josep Oliveras i Samitier, and by Francesc Nadal i Piqué in June 1999 to present day. During Vicenç Biete's term, Lluís Riudor or Francesc Nadal returned to the Board, while some others, such as Pau Alegre and Jesús Burgueño, joined it for the first time. The incorporation of Josep Oliveras, of the Universitat Rovira i Virgili, and of Jesús Burgueño, of the Universitat de Lleida, implied the integration of professors from universities located outside the metropolitan area of Barcelona.

During this period board members functions were diversified and specialised. Enric Bertran continued as the Secretary, office he was holding since 1986; Montserrat Cuxart took over Treasury; Mendizábal was in charge of the Journal publication; Francesc Nadal was in charge of Conferences programming, while Joaquim Cabeza, Joan Tort and Jesús Burgueño were in charge of Trips and outings.

One of the first public acts was the «*Homenatge a Lluís Casassas*», organised jointly by Barcelona's Town Hall and the Societat Catalana de Geografia; it was held on November 4th, 1992 at the *Saló de Cent* in Barcelona. In 1993 the Societat collaborated with the Department of Physical Geography and Regional Geographic Analysis in the Universitat de Barcelona to prepare the «*III Encuentro de Geografia Euskal Herria-Catalunya*» (Third Basque Country-Catalonia Geography Meeting). In the academic year 1994-1995, the Lluís Casassas Award for Geography students was established; it has been awarded since then.

During Vicenç Biete's term, 22 issues of the journal, *Treballs*, were published and its continuity was confirmed. They began also to translate into Catalan some classic geographic thought texts; result of this decision was that in *Treballs* there appeared published the Catalan translations made by Montserrat Cuxart, Pau Alegre and Jesús Burgueño of papers and works by renown geographers such as Carl O. Sauer, Wilbur Zelinsky, Orlando Ribeiro, François de Dainville or John B. Harley. At the same time, they started publishing a collection of geography books, basically classic Catalanian geography

texts. The first book was published in 1998, Marc Aureli Vila's *Aportació a la terminologia geogràfica catalana*; it was followed by Francesc Roma i Casanovas' *Salvador Llobet i Reverter: La geografia, entre ciència i passió*, and by Lluís Casassas i Simó's *Fires i Mercats a Catalunya*, published both of them in 2000.

The trips and outings organised were like in other periods. Joan Tort prepared a series of urban visits titled «Descobertes Urbanes» (Urban Discoveries); with the collaboration of some colleagues, the visitors toured the streets and squares in Sant Joan Despí, Vic, the Gràcia quarter in Barcelona, Castellet i la Gornal, Sant Cugat del Vallès and Lleida (Bertran, 2000, 226). For the first time, thanks to the collaboration of member Pere Andreu i Aliu, of the Arac («A la Recerca d'Altres Cultures») travel agency, they planned travels to countries in the Mediterranean basin. The first travels took place in 1998 and 1999 and were to several towns and regions in Morocco.

The Societat continued inviting well-known Catalan, Spanish and foreign geographers. Thus, in March 1998, they invited Professor Gita Kewalramani, of the Mumbai University. Kewalramani read a conference on «Bombai/Mumbai, una metròpolis en crecimiento y motor de la India», and the text has been published in the issue no. 56 of the *Treballs* journal. There were also some North-American professors: Paul-André Linteau (Université du Québec à Montreal, 1997); Serge Courville (Université Laval, 1998) and Cindi Katz (City University of New York, 1999). There were as well courses and workshops, such as the course taught in 1992 by Metchild Rössler, of the UNESCO's World Heritage Centre, on «Geografía y nacismo: la geografía en el período del Tercer Reich», or in 1994 by professor Javier Martín Vide of the Universitat de Barcelona on «Tres figuras eminentes de la Meteorología y la Climatología catalanas: el padre Benet Viñas, Francesc Salvà i Campillo y Eduard Fontserè» (Bertran, 2000, 221-232).

In June 2000, Maria Dolors Garcia Ramon was elected the new President of the Societat. Her election mean a relevant change for two different reasons. First of all, she was the first woman to hold the office; in the second place, she was the first university chairman that did not come from the Universitat de Barcelona. In this sense, her appointment has confirmed the Societat's progressive adjustment to the social and cultural changes happened in the Catalan society in the last decades. Besides, two new members have joined the Board: Mireia Baylina and Antoni Luna; and professor Joan Vilà i Valentí represents the *Institut d'Estudis Catalans* in the Societat since 2001.

One of the first measures taken by the new Board has been in relation to the journal *Treballs*. From its issue no. 54 (2002), there are an Advisory Council made up by different geographers and university geography professors, an Editing Council with Enric Bertran, Jesús Burgueño, Antoni Luna and Montserrat Cuxart, as well as an Editor, Enric Mendizábal. Its contents have been re-structured and the referees system is implemented. At this moment, there are published 56 issues of the journal *Treballs de la Societat Catalana de Geografia*; in words of Lluís Riudor and Abel Albet it has turned into «un mirador privilegiado de la Geografía catalana reciente ... y algo más» (a privileged window to recent Catalan Geography ... and something else) (Riudor, Albet, 2000, 216-217). Besides, the collection of geography books is enlarged with the publishing of two new volumes: Josep Iglésies' Pere Gil, S.I. (1551-1562) i la seva *Geografia de Catalunya* (2002), and Pau Vila's *Resum de Geografia de Catalunya* (2003).

As in previous periods, social activities enclosed conferences, courses and workshops, as well as trips. In July 2001 there was a two-day trip to Vall Fosca; the experience was

repeated in June 2003 to Ports de Beseit, and in June 2004 it will be to Val d'Aran. Travels to Mediterranean countries have continued as well: Jordan (2001), Sicily (2003) and Greece (2004). In November 2001, the Universitat de Girona with the Societat organised a workshop on «Geografías disidentes. Reflexiones sobre la práctica actual de la geografía». During the academic year 2000-2001 the society collaborated actively in preparing «Eurocongrés 2000 dels espais occitans i catalans». Since 2001 the Societat is integrated in EUGEO (*European Society for Geography*), a Brussels-located society that encloses European geographic societies. In April 2002, the Societat, jointly with the *Asociación de Geógrafos Españoles*, organised the founding meeting of the History of Geographic Thought Group within the association. In September 2003, the society collaborated with the Geography Department of the *Universitat Autònoma de Barcelona* and the *Asociación de Geógrafos Españoles* to prepare and hold the *XVIII Congreso de Geógrafos Españoles* (18th Congress of Spanish Geographers).

At this moment, the *Societat Catalana de Geografia* has about 420 members, some of them honorary members: Ramon Amigó, Yvette Barbaza, Bartomeu Barceló, Joan Becat, Georges Bertrand, Paul Claval, Albert Compte, François Doumenge, Enric Lluch, Joan Rebagliato, Vicenç M. Rosselló, Pere Verdaguer and Joan Vilà-Valentí. Most members reside in Catalonia and in other Catalan-speaking territories; some members reside in other Spanish communities and a few of them in France, Italy, Switzerland, Japan, United States and Canada. Since 2000 the Societat has a web page, «obrador obert», designed and carried out by Pau Alegre, that presents five sections: year activities, history, directory, publications and miscellany. Any reader interested in getting more information on the Societat's history and working must enter this page (<http://www.iecat.net/scg>).

At this moment, the *Societat Catalana de Geografia* is the main meeting point for Catalan geographers, as shown by its board's make-up. The present Board is made up by professors from four different Catalan universities (*Universitat Autònoma de Barcelona*, *Universitat de Barcelona*, *Universitat de Lleida* and *Universitat Pompeu Fabra*). On the other hand, the Societat keeps close relations with other Catalan geography-related institutions and bodies such as the *Associació de Tècnics Geògrafs de Catalunya*, the *Societat Catalana d'Ordenació del Territori*, the *Institut Cartogràfic de Catalunya*, the *Institut d'Estudis Territorials* or the *Centre Excursionista de Catalunya*. In this sense, the Societat's present Board intends it to become not only a geographic activities centre but, as Lluís Casassas said in 1986, «a place for meeting and communicating in freedom» for geographers both from Catalonia and elsewhere.

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IV

SPANISH GEOGRAPHY'S INTERNATIONAL PRESENCE

THE INTERNATIONALIZATION OF SPANISH GEOGRAPHY EXCHANGES WITH GEOGRAPHY AND GEO- GRAPHERS OF LATIN AMERICA

MIGUEL PANADERO MOYA

1. INTRODUCTION.

The relationship between Geography in Spain with Latin American Geography at the beginning of the 21st century is an exchange of people and ideas bearing positive consequences for their respective communities of geographers. These encounters continue the long history of contacts that, especially in the last decade, have become more frequent. Here we will consider their more recent manifestations, preceded by a few introductory points on the background of this relationship and the work of its most notable precursors.

Previously, we analyzed the significance of contributions made by Spanish researchers and academics towards the developing of geographic knowledge in Latin America during the 20th century (Panadero Moya, 2001; Rodríguez Soares, 2001). Let us set aside references to the arrival of Spanish geographers in the 1940s to Latin America (e.g. Mexico, in Castañeda, 2000) and their contributions towards the creation of schools of geography there. 25 years later, during the era of "new geographies" in which exchanges in both directions multiplied, epistemological thinking improved the theoretical training of new generations of teaching professionals in both scientific communities. Geographers of Spain and Latin America are still involved in this task, as shown by recent works from Europe (Ortega, 2000) and Latin America (Santos, 1999). The persistence in reflecting upon this issue is a goal that continues to animate the organizers of the Encounters for Latin American Geographers (EGAL) (Mendoza, 2003), even though this interest is currently accompanied by numerous empirical studies. The analyses of diverse aspects of Latin American Geography that can be found in bibliographies, indexes of Spanish geographic journals and in databases of doctoral theses are plentiful, while their ample distribution and areas of interest reflect the post-modern geographic thinking of the 20th century.

2. PRECURSORS OF THE SPANISH INVOLVEMENT IN LATIN AMERICAN GEOGRAPHY AT THE END OF THE 20TH CENTURY

Joan Vilá Valenti and Joaquín Bosque Maurel notably led the way in this effort. Later, younger geographers also had a direct influence on the development of Geography in Latin America during the same era. Here, José Estébanez Álvarez in Madrid, and Horacio Capel Sáez in Barcelona, should be mentioned.

Vilá Valenti published some pioneering studies during the 1967-1975 period on agricultural space in Latin America and the teaching of Geography. His encounters with Latin American geographers allowed him to promote various theses about Latin America (Carreras Verdaguer, 1999, pp. 103-118) and contribute to establishing Geography in Chilean universities. Santis Arenas (1999, p. 123) has described the results of his visit to Chile as a member of the Committee on Teaching of the International Geographic Union. During the 1980s, ten doctorates were granted in Barcelona during the third academic year under his guidance, representing at the end of the 20th century approximately 20 percent of the Chileans receiving doctorates in Geography (Santis, 1999, p. 127). The writings of Joaquín Bosque Maurel, covering an equally long period of the history of Geography, began during the late 1940s and continue today. An early contribution is his *Geografía de América* (1950, 1952). His reflections in the 1980s on geographic thinking had a greater effect in Latin America. Several of his works on this issue have been published in journals and publications from Madrid, and Latin American countries.

Also from Madrid is José Estébanez Álvarez, who is notable as one of the reference points of Spanish geography during the last decades of the 20th century. His contribution focused on the theory and method of the discipline, required reading for Latin American university students of the 1980s. His expertise was recognized in Mexico, where he was honored by the Mexican Geographic and Statistical Society, and also in Argentina, Venezuela, and Brazil (Martín Lou, 2000, XV-XX). In his most recent work, Estébanez confirms the relationship of Spanish Geography with the proposals of Milton Santos, whose teachings he tirelessly promoted. His lucid reflection "Repercusión de la obra científica de Milton Santos en la Geografía Española", published with J. Bosque Maurel and A. García Ballesteros (1996) in Spain and Brazil, are placed under this task.

The guiding light in Catalonia is Horacio Capel Sáez. Belonging to Estébanez's generation, his influence in Latin America continues today. His most appreciated works deal with scientific thinking and the geographic knowledge of Latin America. His indisputable scientific leadership comes from his work as editor and publisher of *GeoCrítica*, *Cuadernos Críticos de Geografía Humana* (published in Barcelona from 1976 to 1994), as well as the current *Scripta Nova*. Circulating on the internet are: *Revista Electronica de Geografía y Ciencias Sociales*, *Revista Bibliográfica de Geografía y Ciencias Sociales*, *Scripta Vetera*, and *Biblio 3W*, which constitute the principal means of scientific interchange between Spanish and Latin American geographers at the beginning of the 21st century.

To the contributions made by these four authors we should add the numerous pages written by other colleagues in recent years: A. García Ballesteros, J. Gómez de Mendoza, N. Ortega Cantero, R. Méndez, and J. Carpio in Madrid; C. Carreras, J.E. Sánchez, M.D. García Remón, J. Nogué Font, and A. Albet in Barcelona; M. Panadero in Castile-La Mancha, and F. Manero and J. Ortega Valcárcel in Valladolid. Their works have been read with interest in Latin American universities since the second half of the 1980s,

when the introduction of the new international economic order, Spain's accession to the European Community, and the conferences of the newly-formed Community of Latin American Nations helped to establish closer relations between society, academics, and researchers, in Spain, with Latin America and Europe.

The Geography in this further stage explores new areas. Starting from its post-modernist postulates, it considers fragmented space, minorities, women, and indigenous communities as renewed objects of study for the discipline (Ortega, 2000, p. 307). Spanish geographers cited here are members of the third generation of research on Geography theory and thinking. Their work now also appears in Latin America journals, showing the influence their scientific reflections have upon the modern currents of geographic thinking on the other side of the ocean that binds us together.

3. LATIN AMERICAN GEOGRAPHERS IN SPAIN.

The arrival in Spain of geographers from Latin America to stay for research, doctoral programs, specialization coursework, scientific seminars, professional meetings, etc. has become common, too. In this reverse exchange, Spanish universities have received individuals who are outstanding in Latin American geography, which is evolving with an admirable vitality in countries such as Mexico, Argentina, Chile, Venezuela, Colombia, Cuba, and, especially, Brazil. Their trail can be followed in the works they have published over the last few years in Spanish geographic journals. Among these authors are: M.T. Gutiérrez de MacGregor, A. Bassols, M. Zamorano, J.A. Roccatagliata, C. Reborati, N. Grey de Cerdán, A. Bolsi, R. Bustos, J.M.G. Kleinpenning, S. Boisier, H. Santis, H. Romero, P. Cunill, S. Montiel, E. Salinas, A.I. Geraiges de Lemos, M.A.A. de Souza, H. Kohn Cordeiro, A.F. Alessandri, L. Cruz Lima, and above all, M. Santos.

Of the many Latin American geographers who have visited Spain in recent decades, none have had an impact as Milton Santos of Brazil – one of the most important individuals in 20th century social science. His thoughts about the discipline and the social problems of his time, are gathered together in his extensive bibliography that has been notable in Spain. His arrival did not come until the beginning of the 1980s, but his work was already well known in Spain due to the efforts of Catalan publishers. Published in Barcelona, his book, *Geografía y economía urbanas en los países subdesarrollados* (1973), and the paper "Dependent urbanization of Venezuela" appearing in *Imperialismo y urbanización* by Castells, have been frequently cited.

Having decided to extend his thinking to Spanish-speaking countries, Milton Santos participated in a seminar on theoretical and methodological focuses applied to analyzing the urbanization process in Latin America. These "Seminars on urbanization and underdevelopment in Latin America" held at the Albacete campus of the University of Castile-La Mancha in 1986, brought about the first meeting between Milton Santos and several Spanish colleagues. At that time, volume 65 of *GeoCrítica* included several chapters of *Espacio y Método*, with an introduction by L. Urteaga. Shortly thereafter in 1990, Espasa-Calpe publishers released the Castilian edition of his *Por una Geografía nueva*, with a prologue by J. Bosque Maurel. In the fall of 1990, the author returned to Spain to participate in CEISAL's working group on regional studies at the Almagro campus of the University of Castile-La Mancha, and later on with the Chilean regional specialist Sergio Boisier in a series of presentations.

At Almagro, Santos presented his theory on the new signs that form geographic space at the end of the century: the perception of simultaneity of world events, the uniqueness and universality of technology, the globalization of surplus value due to the worldwide distribution of international businesses, the rise of metropolises as global realities, and finally, the elevation of information as the engine of change in society and landscape. The journal *Anales de Geografía* of the Complutense University of Madrid recorded this proposition in 1991, when it published his article "Modernization, technical-scientific medium, and urbanization in Brazil".

In the following years, Santos was in Catalonia to participate in the International Colloquium Barcelona-Toulouse (1992). In Madrid, he presented his article "Los espacios de la globalización" in *Anales de Geografía* (1993). In Salamanca, he participated in the second Congress on Geography of the Latin American group of the Association of Spanish Geographers (AGE) held in 1993, and the Forum on Latin America in 1994. In Oñate, he participated in a seminar on urban violence of Latin America in 1994. He returned to Madrid that year to receive an honorary doctorate from the Complutense University and to give an acceptance speech on "The new worlds of Geography".

He later returned on two occasions to the University of Castile-La Mancha. On the first of these occasions, at a conference on the urban environment at Cuenca in 1994, Santos replied to the documents debated at the 1992 World Conference on Environment and Development. His proposals were developed a year later in his article entitled "The problem of environment: challenges to building an inter-disciplinary perspective" in the 1995 issue of *Anales de Geografía* in honor of professor Joaquín Bosque Maurel. The second came in 1997 when he participated in the 4th Congress on Geography of the Latin American group of the AGE. Between these, Santos went to Catalonia in 1996 to receive an honorary doctorate from the University of Barcelona and to attend the release of his two books published there, *De la totalidad al lugar*, and *Metamorfosis del espacio habitado*. At Sao Paulo, Brazil, he had just provided his intellectual legacy to the international community of geographers as summed up in his book *A natureza do espaço, Técnica e tempo, Razão e emoção*, which would be translated into Spanish and published in 2000 by the "Ariel Geografia" collection.

His masterful *O mundo do cidadão, Um cidadão do mundo*, which his colleagues from around the world, professors and students of the University of São Paulo, celebrated in 1996 along with his seventieth birthday, has references to his sojourn in Spain and the work of two Spanish geographers. M. Panadero Moya wrote about his first visit to Spain, while the one about the repercussions of his work on Spanish geography was by Bosque Maurel, Estébanez, and García Ballesteros. In a later visit in 1997, Santos presented to the congress of Spanish Latinamericanist geographers his definition of place (*territorio*) as the aggregate of banal spaces – an issue brought up some months earlier in his acceptance speech "Banal space: an epistemology of existence" given upon receiving an honorary doctorate in Barcelona. His latest books show his intellectual concerns at the dawn of the new millennium. In *Por uma outra globalização: do pensamento unico à consciência universal* (2000), he develops ideas that had been also posed in "Mode of technical-scientific production and spatial differentiation", his contribution to a work in homage to J. Estébanez prepared by the Complutense University in 2000. The conclusions reached in both instances would finally appear as the conceptual centerpiece of the document "The active role of Geography: a manifesto", his last work, presented before the community of Brazilian

geographers in Florianópolis during their 11th National Convention (2000), and published immediately thereafter in Spain in issue 270/2001 of *Biblio 3W*, *Revista Bibliográfica de Geografía y Ciencias Sociales* of the University of Barcelona.

4. DEVELOPING RESEARCH ON LATIN AMERICA

The scientific curiosity of Spanish geographers for Latin America has always existed. But the generalization of this interest in the relations and the study of Latin America only began to grow during the last two decades of the 20th century, assisted by two favorable events. Institutional support for the 1992 Quincentennial of the discovery of America, the cultural achievements of the Universal Exposition at Seville, and the increase of inter-governmental relations with Latin America, brought renewed interests on the part of Spanish geographers for the state and future of the space and society in Latin America. Cabero (1993, p.3) noted that this re-encounter took place during these years with the support of either the Institute for Latin American Cooperation or the Inter-ministerial Commission on Science and Technology, both of them agencies of the Spanish government. Shortly thereafter, an agreement was signed by universities of Spain, with Spanish and Portuguese-speaking universities of the Americas, under the auspices of the Spanish Secretariat of State for International Cooperation, the Ministry of Foreign Affairs, and the Spanish Agency for International Cooperation (AECI), to develop the "Intercampus" cooperation program. This program would be used to launch joint activities and an exchange of students and professors among the universities of the countries involved in the agreement. Many young geographers in training, and Spanish professors of geography were thereby able to visit, appreciate, and study Latin America. A similar current flowed from Latin American universities to Spain, generating with these exchanges new contacts and collaborative efforts in teaching and research that multiplied since 1996. To the foregoing theoretical reflections and publication of textbooks and updated encyclopedias that facilitated renewed interests in the Latin American region and characteristics, was added an interest to hold seminars and scientific congresses on its geography and the development of new directions in research as reflected in doctoral theses.

An indication of the exchange between Spanish geographers and Latin American geographers is the level of support given to training doctorates. To appreciate the significance of this cooperation, a database on doctoral theses maintained by the Spanish Ministry of Education, Culture, and Sport (TESEO, 2003) was consulted, by searching the term "Geography". Of the 795 theses registered over the last 25 years, 67 theses (somewhat more than 8%) incorporate Geography as a descriptive term, having been undertaken and presented in Spanish university geography departments during that period.

The long-standing interest these academic institutions have for the countries and regions of Latin America has already been mentioned. On a number of occasions this has been affirmed both qualitatively and quantitatively, but we may add the efforts towards the geographic study of the area, increased over time. In 1992, the Quincentennial of the discovery of America, marks a before and after in this process. During the fifteen years before 1992, thirteen theses of Latin American content were presented at Spanish universities, while over fifty-four theses were defended in the ten years following; therefore, there were four times as many during a much shorter period of time. This dynamic has

increased steadily: between 1990 and 1994, eleven theses were presented; between 1995 and 1999, there were nineteen theses; between 2000 and 2002, eighteen were presented. This evolution is testimony of the growing vitality of the exchanges between Spanish geographers and geographers of Spanish and Portuguese-speaking America.

These doctoral theses stem from a total of twenty-four Spanish universities, thereby showing the level of commitment of those institutions to Latin American studies. Different sensibilities can be distinguished as participating in this effort. Those in which at least one thesis has been defended over the last twenty-five years are in the majority. But there are some that stand out among the others. Two theses on Latin American Geography have been presented at the University of Alicante, the University of Leon, the University of Salamanca, and the Autonomous University of Madrid. Three were presented at the Autonomous University of Barcelona, five at the University of Alcalá de Henares. Overshadowing all of these were the many presented at the Complutense University of Madrid and the University of Barcelona. Twelve theses were presented at the Complutense University, representing 18% of the total number of theses promoted by Spanish universities over the last twenty-five years, while another twenty-three came from the University of Barcelona. Thirty-four percent of the geography doctorates on Latin America granted in Spain during this period came from this last university, thereby making it the institution that has most promoted scientific knowledge of Latin America through its doctoral theses.

In guiding these theses, a good number of professors have participated from the receiving universities. Sometime this responsibility has been taken up on two occasions, as in the cases of M. Bolós, J.E. Sánchez, J.L. Luzón at the universities in Catalonia, and E. Chuvieco at Alcalá de Henares. In other, guidance of three theses has been taken up, as were those directed by R. Puyol or A. García Ballesteros at the Complutense University. But in no case were they comparable to the commitment to Latin American research shown by H. Capel of the University of Barcelona, whose academic achievement over the last twenty-five years included guiding twenty-two doctoral theses on Latin America.

The thematic and geographic classification of this support for academic training of Spanish Latinamericanists, and Latin American researchers, makes plain the diversity of scientific interests and regional actors. A third of these have studied problems relating to Urban Geography and Regional Planning, and a similar proportion of diverse themes can be grouped with Economic Geography. In turn, issues relating to Physical Geography and the environment are also notable and represent thirteen percent of researchers. Population Geography and Political Geography both represented 7% of researchers, and finally, to a much lesser degree, there were those studying aspects related to geographic thinking and tourism.

Not every Latin American country has received the same level of attention as objects of geographic analysis, which is understandable because of their extreme diversity in size, population, education and scientific capabilities. Certain countries are not represented in this database of doctoral theses, while some show up several times. This can be interpreted as proof of the ties Spanish universities have with their Latin American counterparts, but it also testifies the death of the relations with many of them. For example, no geography thesis has focused its research on Guatemala, Bolivia, Paraguay, or Uruguay. On the contrary, the various regions of Brazil have been the focus for more than two dozen doctoral theses, a figure that represents a third of all the theses granted during the period under study. The remaining countries lag behind the number of contacts with Brazilian universities, although it cannot be said that some of these are irrele-

vant. The regions and cities of Mexico were the focus of nine theses, and in the Southern Cone, Argentina had six doctorates and Chile had five. Almost all of Central America and the Antilles, and the South American countries facing the Caribbean Sea and the Pacific Ocean, have been focus of study in at least one case. Among them, Cuba and Colombia's four theses, Panama and Venezuela's three theses, and Nicaragua's two theses, overshadow the more limited efforts in countries such as Honduras, El Salvador, Costa Rica, Dominican Republic, Ecuador, or Peru, where geographic study of these areas is represented by only one thesis each.

This analysis of TESEO listings allow us to come to a few conclusions. Relations between Spanish geographers and the Latin American geographers are quite intense, as we have noted, and are clearly growing. The countries that are most often the focus of doctoral research are: Brazil, Mexico, Argentina, Chile, Cuba, Colombia, and Venezuela. At the same time, the Spanish university centers that have fostered doctorates the most are: the University of Barcelona and the Autonomous University of Barcelona, and the Complutense University of Madrid and the University of Alcalá de Henares. Finally, the Spanish geographers appearing most frequently on the database of doctoral theses are: A. García Ballesteros, R. Puyol, and most prominently H. Capel.

5. SPANISH GEOGRAPHY'S WORK ON LATIN AMERICA

On the other hand, works by Latin Americans and Spanish experts included in Spanish scientific journals are an important presence. Today, there are more than forty university journals published in Spain that deal specifically with Geography or contributions to the discipline; they are a mean of expression for the Spanish geographic thinking and the Spanish-speaking scientific community. Almost all of them frequently include articles by Spanish geographers and Latin American geographers on Latin America, in general, or on specific regions or countries. An inventory of the works included in these journals over the last twenty-five years quotes over 550 entries.

Broadly speaking, for every ten issues published, Spanish geographic journals show an average of five articles concerning geographical aspects of Latin America. *Estudios Geográficos*, *Anales de Geografía* of the Complutense University of Madrid, *Ciudad y Territorio*, *Estudios Territoriales*, are the most significant in this regard; they have had a total of 235 articles. If we add to these the contributions on this matter appearing in the *Boletín* of the Royal Geographic Society of Spain, and the *Boletín* of the Association of Spanish Geographers, then we may conclude that more than half (51%) of the articles on the geography of Latin America published in Spain have appeared in Madrid-based periodical publications. At the other pole is Catalonia, home to journals such as *Geocrítica*, *Revista de Geografía* of the University of Barcelona, *Treballs* of the Catalanian Geographic Society, and *Terra: Revista Catalana de Geografia, Cartografia y Ciencias de la Tierra*, which have published a total of 74 articles, or a 13% of the articles on Latin American geography written in Spanish scientific periodicals. To these two groups, it can be added: *Eria* of Oviedo, *Geographicalia* of Zaragoza, *Papeles de Geografía* of Murcia, and *Paralelo 37: Revista de Estudios Geográficos* of Almería, which have also frequently had articles about Latin American geography.

The current relations between geographers of Spain and Latin America are formulated along two fields. On some occasions, when Latin American universities are on solid

footing, their relationship with Spanish geography becomes an opportunity for joint projects, with the participation of researchers and academics of the organizations involved. In others, when the Latin American institutions are weakest, the changes in Spanish society allowed the design of development projects. In the area of promoting contacts with Latin American institutions, some Spanish universities are more notable than others. It is perhaps the Autonomous University of Barcelona, University of Barcelona, Complutense University of Madrid, University of Madrid, and the universities of Seville, Santiago de Compostela, Valladolid, Salamanca, Jaume I, Canary Islands, and Castille-La Mancha, that show the greatest involvement. The organization by Spanish universities of post-graduate studies and doctoral programs at Latin American universities, the foundation of Institutes of Latin American Studies in some Spanish geography departments, and the incorporation of geographers by other existing multi-disciplinary centers in Latin America and Spain, have meant an increase in the number and regional diversity of Latin Americans studying geography in Spain.

An analysis of the Spanish bibliography on Latin American geography done by the Center for Latin American Studies of the University of Castile-La Mancha indicates a diversity of themes and regions that have served as the focus of Spanish geographers of Latin America in recent years. Based on a total of more than 1,500 entries, and more than 200 researchers, the balance sheet of results for Spanish scientific works on Latin American geography, or published in Spain by Latin American geographers, is a little-known account that inspires hope.

In a first evaluation, a typology of the subjects and regions preferred by these geographers for its study can be established. As far as lines of research are concerned, an initial evaluation points out the frequency of contributions such as: *Historia de la Ciencia y el Pensamiento geográfico* by H. Capel, J. Vilá, J. Bosque, C. Martínez, C. Carreras, M.A. Vila, J. Seguinot, and S. De la Vega; *Geografía Política* by J.E. Sánchez, M. Panadero, C. Gavira, and H. Cairo; *Turismo* by M.J. Marchena and J. Cámara; *Geografía Rural y otras actividades económicas* by R. Mata, A. Cebrián, M.A. Martín, J. Córdoba, J.A. Segrelles, M. Mollá, A. Sánchez-Crispin and X. Paunero, *Población y Geografía Urbana* by A. García Ballesteros, E. García Zarza, J. Monteagudo, J.J. Natera, F. Cebrián, J.L. Alonso, J.L. Luzón, E. Muscar and M.A. Zárate; *Cooperación al desarrollo en Latinoamérica* by D. Márquez, J. Carpio, V. Ortells, and A. Escalona; *Cartografía* by E. Chuvieco and J. Sancho, while J.J. Capel, V. Quintanilla, and E. Martínez de Pisón wrote on the environment.

At the same time, the percentages registered for geographic areas, countries and regions that are studied by the authors included in this study reveal their preference for certain areas. Argentina (14.3%), Brazil (10%), Mexico (9.3%), Cuba (5.5%), and Chile (4.5%) have been the scene of four out of every ten Spanish studies of Latin America. A similar proportion (40.7%) is obtained for those works that treat Latin American regional issues from a general perspective. Some regional sub-units such as the Andean countries (8.2%), Central America (4%), or the remaining countries of the Caribbean (2.7%), are also areas worthy of interest. But, some areas continue to languish beyond the borders of Spanish scientific inquiry into Latin America. The most visible deficiencies are the cases of El Salvador (0.3%), Bolivia (0.3%), and Honduras (0.1%), for example, which offer an invitation to further cooperation on the part of Spanish geography with the geographers of Latin America.

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SPANISH GEOGRAPHY'S GROWING TIES TO EUROPE

JUAN IGNACIO PLAZA GUTIÉRREZ

1. THE SCOPE OF REFERENCE, SPAIN IN EUROPE: THE RESPONSE OF SPANISH GEOGRAPHY

There is no doubt that a quick glance at the most important and representative indicators ¹ shows that throughout the last fifteen years of the 20th century and the beginning of the 21st, Spanish geography began opening itself towards the rest of Europe and has become involved in various networks and areas of work. It is, on the other hand, something that actually reinforces a trend that seems to be rising, despite a slow and irregular start in past decades.

Contributing to this, in part, was the 1985 accession of Spain and Portugal to the European Union that became effective in the following year. Their integration into the "Europe of the twelve" helped Spanish Geography, professional organizations, academia, and researchers, to reinforce their internal ties, while Spain's steadily increasing involvement in cultural, political, social, and economic relations led to more frequent and diverse activities and exchanges.

Closely related to the foregoing, on the other hand, is the consciousness of a certain large-scale regional "identity" that is part of a wider periphery that is Mediterranean, Latin, southern European in characteristics, with shared political, social, cultural, and environmental problems and risks, structural deficiencies and shortcomings, that are factors that tend to give Spain a "functional" role within the European Community. These conditions, far from being a hindrance (the European integration of the two Iberian countries created, of course, new regional problems, but it was also decisive in offering regional policy and improved financing for activities, while it also launched specific programs and projects), it actually contributed substantially to the reinforcement and consolidation of Spain's role within Europe.

¹ These include research reports by some of the various university departments available on their respective web pages, as well as the many congresses, workshops, colloquiums, etc. that have taken place in different places in Europe, and the follow-up undertaken by the Association of Spanish Geographers (AGE) in this same area, are the basic references we have used to frame the current paper. To these sources, we have added information from a short questionnaire that some but not all Spanish geography departments answered.

1.1. *The incorporation of European themes in Spanish geographic studies.*

What influence was gained by this new context within Spanish Geography, as a discipline and field of research? A brief, succinct, and superficial overview of scientific works by geographers in the principal journals and publications of Spain induces us to conclude that it was decisive. However, this was not exclusive to Geography. This was also generally true among the other social sciences (especially Economics) and other disciplines (History, Sociology, etc.) that experienced a progressive and growing trend towards the new framework that Spain entered into during the mid-1980s.

In Geography, interest was directed towards two fields in particular. The first of these consisted in the effects and transformations brought about by regional (also called "structural" or "cohesion") policy, an area of study and research that focused not only on related instruments and activities but also on the regions within the mosaic of the European Community, its development, differences, and inequalities. The second field had the common agricultural policy (CAP), as modified, as its center of focus. In this case also, Spanish geography's research and interests went beyond the purely technical and structural aspects of the commercialization of production and markets, in order to extend itself towards rural development, in consonance with the evolution of that policy towards an "integrated rural policy" or a "community agrarian regional policy"; therefore, it is a more "territorial" policy, that closely studies the impact of new development initiatives promoted in those areas (Leader I, II and +).

Both interests have a logical correspondence with the consequences that from these two camps were derived for Spain from 1985 until 2006, at which time the current funding will cease. In these twenty years, there have been three periods of regional community policy in which Spain has been the largest recipient of funds in the European Union. It has also been one of the principal recipients of CAP aid and related measures. It is therefore that the regional and territorial transformations experienced by its regions, the management of its territory, its integration and physical and spatial consolidation, its agricultural activity, landscapes, and rural societies, etc. have become the central priority of the science of Spanish Geography.

1.2. *Spanish Geography opens up to the study of Europe: some examples.*

A recent paper presented at the 18th Colloquium of Spanish Geographers, held in Barcelona in September 2003, affirmed that "Spanish Geography has not been given to focusing on the analysis of the changes that the old continent has undergone...Europe as a geographic and geo-political reality has not significantly stirred up Spanish geographers' research activity...Is it perhaps a hindrance that stems from the prejudice that linked the study of these subjects conceptually to the "insulting" Descriptive Geography of the years coinciding with other epistemological influences in our science? It may be that therein lays an important part of that scant attraction."

Well then, while exercising some self-criticism, it is time to intercede in favor of providing the information and the keys for correcting this trend and its support, albeit only partially. Therefore, since the mid-1980s, in response to the context favored by the political circumstances briefly summarized in section 1.1, the work done by Spanish Geography has given signs that Europe now occupies an appropriate place as an object of study and research, as well as in teaching at the university level.

In 1986, Trivium published *El espacio económico europeo: La política regional*, "The European economic space: regional policy" written by Professor Molina Ibañez (Complutense University of Madrid) and Professor Lázaro Araújo, a geographer and an economist, respectively. As can be seen, the central focus of their work is on one of the main routes and sources of economic and territorial transformation of a Spain recently integrated into the EC: regional policy. This same subject would become a year later in 1987 the object of their brief but expressive essay *Desequilibrio y política regional en Europa*, "Imbalance and regional policy in Europe" published by Salvat. This short work is the fifteenth in a series entitled *Europa* and dedicated to the Europe of the Twelve, published by Salvat in cooperation with the Socialist bloc of the European Parliament, and in which two other short works appeared that were written by geographers: *Las ciudades de Europa* "The cities of Europe" (No. 2) and *Regiones y naciones de Europa* "Regions and Nations of Europe" (No. 5) by professors Arroyo Ilera and Fernández García of the Autonomous University of Madrid.

The mid-1980s were crucial years, in which Europe understandably became a focus of research. To the aforementioned works should be added two more that highlighted Spanish geography's vision of the new European Community space that arose during its third expansion. It was one of the aforementioned authors, Professor Arroyo Ilera, who with Professor Camarero Bullón in 1986 cooperated in the editing of *La Europa de los doce* "Europe of the twelve" (No. 103), a small volume in a collection published by Salvat entitled *Temas Clave* (TC) "Key Subjects", which was a succinct, skilful, and good guide to very diverse and complete information on the new community of Europe that had been born. With a wider scope, more details and documentation, appeared a year later the handbook *Geografía de la Europa de los doce: Aspectos políticos, geofísicos y socioeconómicos* "Geography of Europe of the Twelve: Political, geo-physical, and socio-economic aspects" by José Ramón Díaz Álvarez and published by the Official Chamber of Commerce, Industry and Navigation of Almería.

In the years following, and until the middle of the 1990s, the organization that was foremost in gathering together Spanish geographers was the *Asociación de Geógrafos Españoles* (AGE) – Association of Spanish Geographers, which also contributed to involving Europe as a geographic and political reality in debates at its meetings and in its publication *El Boletín de la Asociación de Geógrafos Españoles*, its principal means of expression and publishing of scientific work. And so it was in 1989, in the 11th Colloquium of Spanish Geographers held at the Complutense University of Madrid, that the scientific program reserved a special place for *Las regiones españolas y la CEE*, "The regions of Spain, and the EEC" a paper by Professor Alonso Fernández, in working sessions and debates (Spain was still taking its first steps within the European Community territory) in which 14 other papers were presented. Four years later in 1993, the AGE Board of Directors had the good sense to be equal to the changing times on the old continent and launched a special edition of its *Boletín* (No. 17), edited by Professor Nogué i Font of the University of Girona, focusing on geopolitical conflicts and territorial transformations of contemporary Europe.²

² There were four central points that the nine papers dealt with: the disintegration of the USSR and the disappearance of Eastern Europe as a geopolitical category; the rise of nationalism in the Balkans and the onset of new states in the former Yugoslavia; regional disequilibrium in the integration process underway in the European Community; and the Europe of cities and Europe of regions versus Europe of the States.

In 1995 emerged another paper by a Spanish geographer that since that time has been a reference point for study and research on Europe done by geographers as well as other professionals such as economists. The Spanish Institute on Economic Studies published the doctoral thesis *Reestructuración socioeconómica y desequilibrios regionales en la Unión Europea* "Socio-economic re-structuring and regional disequilibrium in the European Union" by Andrés Rodríguez Pose, then of the Complutense University of Madrid and now professor at the London School of Economics. Jesús del Río Luelmo also dealt with a section of the old continent in defending his thesis *Geografía política de las relaciones de la Unión Europea con los espacios periféricos del continente el caso de la República de Turquía*, "Political geography in the relationship of the European Union with the periphery of the continent: the case of the Republic of Turkey". This research stemmed from the training he received during his time at the University of Exeter in the UK.

Closing this representative section, in which we have referred to only a few examples in order to reaffirm the growing closeness and interest on the part of Spanish geographers in research on Europe, are the AGE's colloquiums held in Salamanca in 1995 and in 2003 at the Autonomous University of Barcelona, as well as the involvement in these issues on the part of Spanish teaching professionals in the universities. In the aforementioned colloquiums, the European geographic space and its different dynamics and problems occupied center stage. The paper *La Europa de las regiones, 1970-1995*³ "Europe of regions, 1970-1995" was presented at the first colloquium, and was analyzed further in various work sessions, discussions, and in a final talk given by Professor Eckart Ehlers of the University of Bonn about a united Germany in a united Europe. For its part, the 18th Colloquium of Spanish Geographers held September 24-28, 2003 in Barcelona dealt very aptly with Europe with discussions on the "Diversity and Integration in the new Europe" shortly before the admission of new countries to the European Union; Twenty papers were presented on three different sub-topics: new political and institutional contexts of an expanded Europe, a geopolitical reading of Europe from the South, and mobility and migration within the European framework.

Likewise, at the beginning of the 1990s in 1992 and 1993, new study plans for Geography were put into effect. The need for fully knowing the configuration, structure, problems, and changes in the European geographic area was reinforced institutionally and recognized with the inclusion of a 12 credit course of studies called "Geography of Europe", and given just as other such courses are provided in universities. This was an important step that was clearly a great improvement over the antiquated Descriptive Geography or Universal Geography that was to disappear at that point.

2. THE RELATIONS OF SPANISH GEOGRAPHY WITH EUROPE: OPENING UP TO OTHER CENTERS ON THE CONTINENT

In view of the above brief survey that tried to demonstrate that Spanish Geography has shown a growing attraction towards the study and research of Europe, although not yet in a conclusive fashion, we shall proceed in reverse fashion of what we have com-

³ The sub-units were: "Regional implications of policies on primary activities and the rural setting", in which 23 reports were presented but only one truly dealt with the European dimension, while the rest analyzed the consequences of applying European aid and other measures to Spain. "Spatial mobility of Europe's population: types and flows" had 30 reports of which only three dealt with the continent. "Renovation and the industrial crisis in European cities" had 13 reports but only two specifically focused on the European framework.

mented upon hitherto and offer a schema of the relations the Spanish Geography maintains at different levels with universities and centers in various European countries.

2.1. Circumstances and factors that have stimulated improved relations between Spanish Geography and other countries

In the same way which we showed that Spain's integration into Europe fostered more attention to geographic study and research on certain processes and policies that were influential in the evolution and transformation of Spain, the opening up of Spain's university Geography departments to Europe, as well as the consolidation of diverse relations between them and the design of new means of cooperation, have been and are realities that are supported, to a great extent, in a context and with means that are directly related to our membership in the European Union that are to the benefit of the various programs and cooperation among the member States of the union as well as between these and third countries. Also contributing in a substantial way are public resources from the agencies and ministries most involved: Education and Culture, Science and Technology, etc.

We must point out here the very important role that student exchange programs such as *Erasmus* and *Socrates* have had. This has been, perhaps, the most utilized means of networking and exchange between the universities on the continent. In the same way, *Acciones Integradas* "Integrated Actions" has been a direct mean for consolidating relations between specific groups of professors sharing common interests in study and research. The periodic call for these "Actions" in various European countries has sparked growing interest. Similarly, aid towards the exchange of professors for stays in European universities and centers or for participating in scientific meetings has contributed towards increasing the open-ness of Spanish Geography towards the rest of Europe. Together with these should also be pointed out the repeated calls of Framework Programme of the European Union, a decisive way of increasing joint research by the different universities within the community, as well as more specific programs that stem from agreements between two or more European countries, e.g. the Franco-Spanish program of cooperation in social sciences.

2.2. The reality: How and to what degree and at which levels has Spanish Geography opened towards Europe?

A) At the outset we can affirm that is a first, more institutional and collegial level at which Spanish geography has slowly increased its involvement in Europe. This is the level at which the Association of Spanish Geographers (AGE) operates most directly. Although this is an area that has been treated by preceding papers ⁴, nevertheless, at the risk of some overlap, the ties they have made evident cannot be ignored. Therefore, the AGE has increased the number of agreements with associations of geographers of other European countries and has facilitated scientific gatherings and meetings on a variety of topics.

⁴ I am referring specifically to *Presencia internacional de la Geografía española y relaciones con la Unión Geográfica Internacional*, "International involvement of Spanish Geography and its relations with the International Geographic Union", by García Ramón, María D., and Riera Figueras, María P.

This it has done with the *Association Francaise pour le Développement de la Géographie* "French Association for the Development of Geography" (AFDG) which is dedicated to relations between geographers and their professionalizing. Good examples of the involvement of geographers from both groups are the meetings of the *Geo-forum* held in Pau, France, in 1999, and in Palma de Mallorca, Spain, in 2001. Relations with neighboring Portugal and its Association of Portuguese Geographers have continued to become closer and have been reinforced since 2003, having been reoriented towards new horizons through the periodic calling together of Iberian Colloquiums; the next, to be held at Évora in 2005, will focus on "The Iberian territory in an expanded Europe". This is also true of relations with the Institute of British Geographers, which is put into practice during periodic meetings of working groups from the two organizations.

Within this same context must also be placed the meetings held by groups with specific interests, such as the colloquiums held by Franco-Spanish and Anglo-Spanish rural specialists. The former group has yet held only one meeting: the First Franco-Spanish Colloquium on Rural Geography, coordinated at Cuenca in 2001 by Professors García Marchante (for Spain) and André Humbert (for France), in which 30 Spanish and 15 French geographers presented papers concerning the topic "The relationship between agricultural and mountain communities". The latter group has held two meetings: the First Anglo-Spanish Symposium on Rural Geography, held at Leicester in September 1996, came after initial contacts through the IGU between Professors Roser Majoral and Ian Bowler that were followed up by the coordinated efforts by Professors Antonio López Ontiveros, Fernando Molinero Hernando, and Brian Ilbery.⁵ The Second Anglo-Spanish Symposium on Rural Geography took place four years later in July 2000 at Valladolid, and was coordinated by Professors Molinero Hernando, Baraja Rodríguez, and Alario Trigueros.⁶

B) A second, denser, more prolific and fluid level is found among the various university departments of Geography and other centers in Spain⁷, which have founded the-

⁵ Recent Anglo-Spanish research on Rural Geography: "From traditional countryside to post-productive transition".

⁶ These papers, except for 28, were later put on CD-ROM.

⁷ The most significant case, and perhaps the most representative, of the opening up of Spanish Geography in Europe towards the professional practice of geography and research is that of CeCODET – a unit of the University of Oviedo directed by Professor Fermin Rodríguez Gutiérrez, who is assisted by several other geographers. CeCODET has ties to the Eurexter Association, in which are also involved the Urban and Territorial Department of the Polytechnic Institute of Milan, several Italian municipal councils, HWP of Hamburg, RATP (Transport Network of Paris), regional councils of France (such as Poitou-Charentes), the University of Limerick, the University of Catania, among other institutions. It is also involved in the Fifth Framework Programme for European research of Project SURE, on the reorganization of cities. It is also responsible for general coordination of Atlantic Coast (Interreg IIIB), along with the Regional Office on Environment and Territory (Evora, Portugal), the Regional Council of Aquitaine (Bordeaux), Cornwall County Council (Ayuk), the General Office for Planning and Regional Development of Galicia (Spain), the General Council of Gironde (Bordeaux, France), GLAHS (Huelva, Spain), The Highland Council, Metropolitan Area of Lisbon, and the Mayo County Council (Eire). It is also a member of the science committee and operations of Project SDEA (Interreg IIIB). It also oversees a Master's program in Local Development, which in 2002-2004 developed external practices by agreement with the following organizations which received students for stays of four months: Commune of Cremona, Weather Office (Italy), the Municipal Council of Bolzano (Italy), IAL Sardinia, Scottish Enterprise-Tayside (Glasgow), Association for the Development of the Home, Cavado and Ave Highlands (Douro-Minho, Portugal), South West Regional Authority (Eire), Union of Associations of Merchants and Services (Portugal), Lanekintza Development Agency (Spain), CEDA (Glasgow), Studio Europeo Consulenti (Italy), RATP (France), Development Agency of Abers (France), Association for Local Development (Portugal), Association of Mirandesa Breeders (Portugal), Europark-Natural Heritage Services of Metsahallitus (Finland).

matic networks, work groups and study groups, as well as putting together joint research teams. Teaching, research, and other cooperative and collaborative efforts are among the areas where these have been put into effect. And it is in the results, which we will summarize below, that there is an evident logic: larger universities are of greater importance and show a greater degree of open-ness (García-Ramón and Nogué i Font, 1989, p. 13) ⁸, even though there are exceptions.

A field in which growing links between Spanish Geography and Europe may be found is the area of teaching (post-graduate courses, Masters and doctoral programs). In this chapter, the search for information and the results obtained are not, however, the most abundant. Only the Geography departments of the Autonomous University of Barcelona (UAB), the University of Zaragoza, and the University of León provided data. The UAB is notable for having professors at the University of Westminster (UK), the Technische Universität München (Germany), and the Instituto Universitario di Architettura di Venezia (Italy). The University of León is involved in the doctoral programs taught at the University of Coimbra and the University of Porto (Portugal) and in the Politecnica di Torino (Italy), as well as the Master program at Bordeaux III (France). Finally, teachers from the geography department at Zaragoza were present at the Institut de Géographie Alpine (France), and the London School of Economics.

There is more information when look to the relationships between Spanish geography departments and their European counterparts. And this is largely due to the Erasmus/Socrates programs. The number of agreements signed by the departments (that have provided information) with other European universities is multiplying ⁹. Nevertheless, these links now extend into other fields and other manifestations. There have been four formulas that have been used by Spanish Geography departments to establish ties: integrated actions -*acciones integradas*-, agreements, specific collaborative programs, and the granting of seminars on specific subjects.

It is perhaps the first of these, integrated actions (which are understood as agreements on scientific collaboration), which has been used the most to consolidate Spanish

⁸ García Ramón, María D., and Nogué i Font, J., 1989, Influencias extranjeras en la Geografía española: algunas indicadores "Foreign influences in Spanish geography: some indicators", in 11th National Geographic Congress: Reports; AGE and the Complutense University of Madrid, Vol. 1, pp. 11-20.

⁹ University of Alicante has 10 universities, three in Italy, two in the UK, and one in each of the following: Austria, Germany, Denmark, France, and Greece. The Autonomous University of Madrid has 25, in Germany (4), France (9), UK (3), Italy (2), Portugal (2), and one in each of the following: Belgium Denmark, Finland, Romania, and Switzerland. The Complutense University of Madrid has 23, in Germany (6), Belgium (2), France (4), Italy (3), Netherlands (1), Portugal (4), Sweden (1), Switzerland (1), Poland (1), for a total of 33 slots. The University of Extremadura has 5, in Germany (1), Netherlands (1), Italy (1), Finland (1). University of Girona has a total of 6, in France (2), Portugal (1), Netherlands (1), Italy (1), Finland (1). The University of León is involved in four networks: Utrecht, Perpignan Network-Herodote, Coimbra, and Hogskola (Sweden); the Basque Region has 4, in France (2), UK (1), Finland (1). The University of Las Palmas has 7, in France (2), Portugal (1), Eire (1), Italy (1), UK (1), and the University of Malta. The University of Salamanca has 42, in Germany (8), Belgium (1), France (12), Italy (4), Eire (1), Iceland (1), Lithuania (1), Norway (1), Netherlands (1), Switzerland (1), UK (2), Portugal (4), Romania (3), Sweden (2); Also in Salamanca, during the last two academic years (2002-2003 and 2003-2004) five geography students participated in this program at European universities while 17 students from various parts of Europe came to Salamanca. The University of Santiago de Compostela has 9, in France (3), Germany (2), Italy (1), Eire (1), Norway (1), Portugal (1). The University of Valencia has 14, in Switzerland (1), Germany (3), France (2), Italy (3), Norway (1), Sweden (1), and UK (3); in the last three years, 24 geography students from Valencia went to universities throughout Europe, while in 2003-2004 there were 18 who went to Europe, and 9 non-Spanish students came to Valencia. Finally, the geography department of the University of Zaragoza is involved in three Socrates/Erasmus programs with 14 universities, 3 in France, 1 in the Netherlands, 3 in the UK, 2 in Germany, 1 in Portugal, 1 in Finland, 2 in Italy, and 1 in Switzerland.

Geography's involvement in European university networks. By way of example, of the information that we have obtained, we can mention the integrated actions were undertaken by the Regional Development Institute of the University of Granada Geography department with the Geode Laboratory (CNRS, France) on two occasions: 1992-1994 and 1994-1996. We must also point out the participation in 1995 by several Geography departments in Spain (Santiago de Compostela, León, and Salamanca), in Portugal (Coimbra and Porto); and France (Universite Michel Montaigne) as part of the integrated action of the Franco-Spanish "Picasso" program ¹⁰. And so also were the integrated actions that the Geography Department of the University of Salamanca undertook in conjunction with Strasbourg ¹¹, and currently with the Technological University of Vienna. ¹²

In the same way, the agreements on collaboration that accompanied various faculty exchange programs have been the basic means for opening up Spanish Geography to other European universities. Although there are many of these, and they are multiplying, the information received has been very scarce. We can single out two examples. One of them ties the Geography Department of the University of Zaragoza to the Polish Academy of Sciences. The relations between geographers from Santiago de Compostela and the University of Bergen (Norway) are also supportive in this regard, being frequently accompanied by resident scholars and the undertaking of research on some specific topic. On other occasions, these agreements have revolved around certain community programs or instruments (e.g. Interreg), as in the case of the Universities of Salamanca, Santiago de Compostela, and Zaragoza. ¹³ These agreements have been used in other cases as a formula for constituting organizations, entities, or institutes for training, study, or research in which several partners are involved. This has been the case, for example, with the *Centro de Estudios Ibéricos* (CEI) "Center for Iberian Studies" in which are involved the University of Salamanca, the University of Coimbra, and the Municipal Chamber of Guarda. ¹⁴

The specific programs on collaboration are the third means for bringing about closer relations with Europe. We can highlight two examples in this regard. The first is the *Programa Interuniversitario de Cooperación (PIC)* "Interuniversity Program for Cooperation", which focuses on "Architecture, Urbanism, and Territorial Organization", as overseen by the Department of Human Geography of the University of Barcelona in

¹⁰ This integrated action highlighted study and research into the management of the entire territory of the Iberian peninsula, while paying close attention to border regions and the periphery.

¹¹ Its main scientific objective was to further the knowledge of compared hydrological environments.

¹² In this case, there is a collaborative effort to utilize radar to estimate soil humidity.

¹³ In the case of Salamanca, this community instrument was used for improving relations with other areas covered by Interreg in Europe, as has been the case of the German-Polish frontier region near Görlitz. In Santiago de Compostela it was the *Guia da Raia: Galicia-Região Norte de Portugal* "Guide to the Border: Galicia and Northern Portugal". In the case of Zaragoza, the department there coordinated the Interreg III A "Territoria Universitates" – Development without Borders, having as partners the Aragon Network for Rural Development, the University of Toulouse-Le Mirail, the General Council of the Hautes Pyrénées, and the Labor Board of Comminges (Haute Garonne).

¹⁴ In the CEI, together with professionals from other areas at the two participating universities, Geography holds center stage, while on its scientific board there are geographers from the University of Salamanca; this collaboration has resulted in two summer courses of study. In this border region, the use of inter-university agreements for setting up other centers and entities such as the Instituto Interuniversitario Transfronterizo "Cross-Border Inter-university Institute", which is related to the Rei Afonso Henriques Foundation.

association with seven other partners.¹⁵ The other is the Program on Environmental Education coordinated by the Department of Geography of the University of Zaragoza and the University of Toulouse-Le Mirail (France), which also collaborates with the *Centre International des Haute Etudes Agronomiques du Méditerranéennes* (CIHEAM) "International Centre for Advanced Mediterranean Agronomic Studies", renowned for research and training on Southern Europe.¹⁶

Finally, the holding of seminars on specific issues has also served other departments in making their international networks more effective, by opening them to groups, research and training centers in Europe. This is the case, for example, of the Department of Regional Geographic Analysis and Physical Geography of the University of Alicante (in conjunction with 13 other European universities), whose professors were involved in the "European Seminar on the Geography of Water" held in Italy in 1994 and in France in 1995.¹⁷

The research relationships that Spanish Geography has continued to develop with other European universities and centers have also been significant. In this chapter, it is evident that the Geography departments in Spain have been progressively integrated into European teams and thematic networks, participating in funding various Continental entities and organizations to carry out projects and tasks by teams from various European universities.

By making use of information obtained for a period that extends from the end of the 1980s until the present day, the results permit us to recognize three types of relationships with other countries of the Continent: a) those that are limited to participation in research projects in cooperation with other European universities, or projects done in Spain under European auspices; b) those that involve integration and relations with work groups and research from other European universities or centers; c) those that involve visiting faculty and fellowships in European universities.¹⁸

With respect to the first type, and utilizing statistics on the information obtained during the aforementioned period, there have been 52 projects in which Spanish Geography has been involved. In each there has been considerable participation of researchers, most notably in the cases of: the Autonomous University of Barcelona (12), University of Barcelona (8), University of Valencia (6)¹⁹, University of Cantabria (4)²⁰,

¹⁵ They are: a university and a School of Architecture, in France; a university and a university institute, in Italy; a university in Portugal; and a university and a technical school in the UK.

¹⁶ The collaboration is limited to participation in the successive courses long held by the Center on Rural and Environmental Management, attended by graduate students, doctoral candidates, and lecturers from various European universities.

¹⁷ Participating were: 2 universities from the UK, 3 from Italy, 2 from Spain, 1 from Sweden, 1 from Germany, and 3 from France.

¹⁸ In reality, some of these relations are included in a category only if they are understood within the context of the other types established. For example, integration into a research team because of an exchange with another university.

¹⁹ These are gathered under the EU Framework Programme in successive projects: AIR (1995-98), RIPPLE (1997-99), PRIDE (1999-2001), ASPIRE and SPRITE (2001-03), and RURBAN (2003-05).

²⁰ The four at Cantabria received European funding, while two of them were outside of Spain; one in Bonn, Germany, and the other in Pau, France.

Complutense University of Madrid (4)²¹, University of Extremadura (4)²², University of Santiago de Compostela (2)²³, University of Las Palmas (2), University of León (2), University of Lleida (2), while the University of Alcalá, University of Alicante, the Autonomous University of Madrid, University of Granada, University of Málaga, and University of Zaragoza had one each.

The second type of research relationships has presented more difficulties for closely following the ties that Spanish geographic research groups maintain with other European networks and teams, mostly because many of them have no known institutional or constitutional format and that, on more than one occasion, they are the product of personal knowledge and work rather than the verification and compilation found in research reports. In any event, these ties are plentiful and allow us to single out, for instance, in the history of geographical thought the relations between professors from the Autonomous University of Madrid and the University of Pau; the University of Zaragoza with the University of Pau and the University of Toulouse-Le Mirail; the University of Valencia with University College Chester (UK), the Bariland in Israel and Professor A. Faludi's group in the Netherlands; members of the working group on Economic Geography (coordinated by the Complutense University of Madrid with other Spanish universities) and the groups of Professor Benko (France) and Vandermotten (Belgium); professors from the University of Alicante and the University of Padua (Italy); the University of Extremadura and the University of Salamanca with the University of Coimbra, University of Lisbon, and the University of Évora; the University of the Basque Country with the University of Clermont-Ferrand (France), or the professors of the University of Santiago de Compostela and the University do Minho and the University do Porto (Portugal).

Finally, the stays on the part of scholars, as was also the case under the agreements of the Erasmus/Socrates Programme, are diverse and quite numerous²⁴ thanks to the more frequent exchange programs that underlay the progressively greater open-ness of Spanish Geography towards the rest of the European universities and centers already mentioned.

²¹ The four were undertaken in Spain, but received European funding.

²² One was financed by the EU Framework Programme, another by the EU LIFE Programme, another by the EU Environment and Climate Programme, while the fourth was financed by the National Council on Scientific Research of Lisbon, Portugal.

²³ One of them, Actions in Rural Transport (ARTS), in which Santiago de Compostela participated with 24 partners, was also financed by the EU Framework Programme; the other was financed by European Foundation for Forests, Rivers, and Lakes (FONDEL), with 6 partners.

²⁴ This is the reason why we can identify only a few examples, without going into all exchanges that are and have been between the universities in Spain and Europe. Professors from Santiago de Compostela at the universities at Le Mans, Caen, and Toulouse, France, and at Bergen, Norway; from Salamanca at Bergen, and Vienna; from Valencia at Trier (Germany), Oslo (Norway), Chester and London (England), and Matera (Italy); from the Basque Country at Joensuu (Finland) and the Blaise Pascal of Clermont-Ferrand (France); from Las Palmas at the Louis Pasteur-Strasbourg (France); from the Complutense of Madrid at the Louvain (Belgium), Venice, and Paris III; from León at Torino (Italy), Bordeaux III and the Institut d'Urbanisme de Paris; from Zaragoza at the London School of Economics, the Joseph Fourier University at Grenoble (France, and the Jyväskylä (Finland); from the Autonomous University of Barcelona at Cambridge University, the London School of Economics, King's College-London, the Instituto Universitario di Architettura di Venezia (Italy), the Joint Research Centre (Ispra, Italy), Freiburg University (Germany), and the University of Sussex (UK).

We close now this brief narrative of the growing relations of Spanish Geography with Europe through its university departments and research groups, by looking at the involvement of Spanish geographers in the organizing ²⁵ and oversight of international events (e.g. congresses, scientific meetings, etc ²⁶), as well as their involvement on committees and commissions of research journals, as well as on specific projects. Starting with the latter, there are several examples that we can offer as significant to the present study that we now close: Professor Ricardo Méndez is a member of the Reading Committee of *Ciber-Geo: Revue Européenne de Géographie*; Professor Josefina Gómez Mendoza is a corresponding member of *L'Espace géographique* and a full member of the *Committee on the History of Geographic Thought* of the IGU; Professor Horacio Capel is, along with other commitments, a consultant to *Fisterra* magazine of Portugal; Professor Florencio Zoido has had a close and fruitful relationship with the Council of Europe in drawing up the European Landscape Convention; Professor Carmen Faus Pujol is an advisory member of Spain for the *International Journal of Population Geography*, and co-editor of *Migration Letters: International Journal of Migration Studies*; Professor Rubén Lois is a member of the advisory committee for the French journal *Noroi*; Spain is also represented at the French journal *Méditerranée*; Professor José Luis Peña Monné is an editor for *Mountain Research and Development* of Switzerland. These facts, then, speak of the growing involvement of Spanish Geography at different levels in Europe, but do not hide the fact that it needs to go much further, not only with respect to opening up and integrating networks and teams, but also in identifying and linking Spanish efforts in Geography to Europe.

²⁵ With regard to organization, Spanish representation is even lower, while it is the Autonomous University of Barcelona that stands out for its involvement of seven faculty members in organizing five congresses on Europe.

²⁶ In this chapter, again based on exchange programs and aid towards attending congresses that have increased, we limit ourselves (without providing over-abundant and incomplete statistics that have yet to be compiled) to pointing out that Spanish geographers' attendance at these events has steadily increased.

GEOGRAPHY AND DEVELOPMENT IN SPAIN

MARÍA PRATS FERRET

1. INTRODUCTION

This paper begins with the hypothesis that Spanish Geography has a much smaller role that might be desired in the area of development. With the goal of understanding the situation, we have studied three complementary factors: 1) training on development provided by Geography departments, 2) research found in Spanish journals on countries of the South,¹ and 3) the Spanish professional environment for development.

This is an introductory work based on the scant information available on an activity that has been hardly explained by Spanish geographers and in previous reflections by the author. Though it does not pretend to be exhaustive, and is based on general non-segregated data or on examples.

2. TRAINING IN GEOGRAPHY FOR DEVELOPMENT

The Geography degree provides a professional background that would seem to be well adapted to the demands of work in development, especially when it is complemented by specialized post-graduate training in areas such as: Gender and Development, Environment and Development, and Project Management. Among the knowledge and skills most valued by the profession (Talbot, 2000) and which geographers acquire throughout their training, that we may mention are: understanding the world, a sense of place, spatial sensibility, and working at different scales. As for skills, they are: flexibility, teamwork, decision-making, problem-solving, analytical capability, communications, etc. If we add language and computer skills to this geographic training, we would have a professional ready for work on the ground, yet another valuable factor.

¹ One may prefer "developing countries", "poor countries", or any of the other names or euphemisms referring to those countries receiving development aid. Without putting into question its importance, I do not believe that we should tarry on this point but should discuss at another time the name and definition of this concept.

A geographer's training is quite appropriate for managing development (diagnosis, project design, follow-up, and evaluation), while it is less so in more specialized areas such as: medicine, agronomy, veterinary medicine, among others. Nevertheless, while a demand or opportunity may arise for it in issues relating to area management, environment, or geographic information systems, even though demand for this type of work is still quite small in development circles. It is worth pointing out that the demand for such specialized geographers may grow in the future together with efforts toward the prevention of crises and emergencies (as opposed to traditional corrective measures), especially with regard to natural risks. Beier and Downing (1998) make this quite clear in their very interesting contribution on the role of Geography in humanitarian aid. The authors wrote about the concepts of danger, vulnerability, risk, disaster, and catastrophe, and show that in the Third World it is even more difficult to distinguish between humanitarian aid and development. Having an influence on strategies for preventing catastrophes, however, does not mean being limited to technical solutions, but addresses simultaneously the structural causes for poverty as well as the distribution of income and resources in a population. We believe that this idea rightly reinforces the potential role Geography can play in this area, since the focus of the natural sciences and technology do not sufficiently address social, economic, and political variables: it is to this inter-relationship that Geography can truly respond.

2.1. Teaching about development and countries of the South in Geography degree programs

Focusing now on the current course offerings in Geography degree programs, we can make some observations. Among the most useful courses to professional development work, we can point out basic introductory courses such as Human Geography and Physical Geography. Analysis undertaken in these courses is usually on a global scale, offering to future development professionals the necessary basis for understanding and analyzing a wide range of aid environments, as well as the inter-dependence found between regional entities and at the world level. This focus, as well as the use of case studies that may include examples drawn from countries of the South, can also be found in compulsory courses such as Rural Geography and Urban Geography, or in optional courses such as Economic, Social, or Cultural Geography.

In any event, it is in the area of Regional Geographical Analysis coursework that Geography students may deepen their knowledge of regional contexts, especially in those dealing with the continents other than Europe². It is to be lamented that these sorts of courses are very few in Spain, especially those that are compulsory. It is estimated that less than half of the Geography degrees in Spain offer courses on regions outside Europe (Tulla, 2004).

While this deficit is fostered, in part, by the emergence of other subject areas or new technologies that have been admitted into study plans, it is not limited to Spain since

² We would not wish that this and other references to "continents other than Europe" or "areas outside of Europe" should be understood as Euro-centric code. This reference is necessary since European studies are essential to the Geography degree and, while optional courses on other continents are found among course offerings, it is uncertain whether they are actually given.

other countries have become aware of the role and the interest these courses may have for Geography students. In an article about teaching Third World Geography in the universities of the United Kingdom, Unwin and Potter (1992) show that despite the fact that these courses attract many students, the offerings are quite limited, especially with regard to certain continents. The authors demonstrate the necessity of broadening these offerings not only at the undergraduate level, but also at the graduate level so that students interested in these geographic areas may deepen their knowledge and professional training in the area of development.

2.2. Post-graduate training in development studies

As it has already been pointed out, it is the post-graduate level of studies that are quite appropriate for completing and deepening preparation for the development field. It is thereby that one would expect a leadership role or at least a leading role for Geography departments in this sort of initiative. The reality, however, suggests otherwise. Neither at the Master's degree and graduate level nor at the doctoral programs administered by Spanish university Geography departments are there any that are specifically directed at development (Tulla, 2004). There are indeed degrees offered on local development that may incorporate a few credits, but none exclusively, on that area. One would also suspect that there are geography professors teaching in inter-disciplinary Masters and post-graduate degree programs on development, but we must point out that, in reality, these courses are neither offered nor directed by Geography departments. In a report on post-graduate courses related to development (www.ige.csic.es/age), we find that those who organize them come from departments of Economics, Anthropology, Politics, Law, Architecture, and Sociology, as well as various specialized institutes, but not from Geography. We find therefore a vacuum and a lack of leadership in this field that coincide with the failings and gaps that we will observe in other respects.

3. RESEARCH AND PUBLICATIONS ON COUNTRIES OF THE SOUTH

The geographic area studied in works of research is also an indicator of the interest Geography has for research on the countries of the South. We do not have a complete picture, but there are partial indicators from various periods and environments that we can use as a principal source of information. We have a complete biblio-metric analysis that was done at the beginning of the 1990s (García Ramón, M.D., Nogué, J., and Albet, A., 1992) for 28 Spanish journals over the 1940-1988 period. Specifically, we looked at information on the areas covered by the articles found in the journals that were analyzed. It is to be observed that, throughout the period under study, only 18.64% of the articles dealt with foreign areas, while 68% of the articles dealt with Spain. Amid this depiction of scant attention paid to foreign countries, the authors single out important variations occurring during certain periods; between 1940 and 1954 more than 60% of the articles dealt with areas outside of Spain, but in less than twenty years there came about an inverse situation that continued into the 1990s, and presumably to this day, in which articles were predominantly about Spain (García Ramon, M.D., Nogué, J., and Albet, A., p. 47). We can report that these variations in the evolution of regional Geography, having under-

gone a great expansion within the context of colonialism, was to fall into discredit in the decades after the Second World War and has since taken time in recovering. Unfortunately, while we do not have a breakdown of by countries or continents, we must take into account that the fore-said analyses of these foreign regions also include works about European or North American countries, therefore making it easy to deduce that the attention paid to the South is even less.

Another somewhat later biblio-metric analysis of Spanish geography (Sánchez, 1995) was done on the basis of data from CINDOC for 1975 through 1993 corroborates the results already mentioned. In this analysis, the articles referring to Spain constitute 70.4% of the sample and reflect the considerable localism previously found by other authors that, far from diminishing, appears to become stronger over time. As far as the areas chosen for study are concerned (excepting Spain), in first place is Europe and America with more than 350 works each, followed by Asia and Africa with 70 each, followed by 20 for Antarctica and even fewer for Oceania.

Some more recent accounts of Spanish geographic research confirm these trends by analyzing the study scale and observing that works about foreign lands are actually rare, with the exception of those concerning Latin America. For example, in the analysis of published works that appears in the report on university research of 1999 (Muñoz, 2001, p. 146) there appears barely 4.9% that concern non-European regions. López Ontiveros (1995-1996) links this paucity of publications on non-European and non-Spanish regions with a supposed incapacity for analyzing at a broader and more challenging scale, as well as Spanish Geography's poor integration internationally.

Another work where this idea abounds is the account of geographic research in Catalonia done by Enric Lluch and Abel Albet (1998) that shows that during the 1990-1996 period only 20% of the theses presented at Catalanian universities dealt with regions outside of the territory of Spain, while more than three-quarters of these were done by Latin Americans who did their research in Catalonia.

Finally, we were interested to know what happened over the last decade and find out whether there has been any significant change. To this end, we have done a close analysis of three journals³ that are significant because of their level of internationalization: *Anales de Geografía de la Universidad Complutense de Madrid*, *Documents d'Anàlisi Geogràfica*, and *Estudios Geográficos*. During the 1995-2002 period, articles on the South amounted to approximately 18% of the total, with a similar percentage obtaining for each of journals considered separately. These levels remain quite stable during each of the years with the exception of *Estudios Geográficos*, which by publishing numerous monographs on certain Latin American countries (Cuba in 1996, and Chile in 1999) increased the percentage significantly.

A look at these analyses and accounts permits us to confirm that works published by Spanish Geography on the rest of the world, and the South especially, are quite scarce and much fewer than should be expected from a discipline which has among its principal objectives the study of regions throughout the world at different scales. We believe that this is another factor that should be improved in the future.

Among the factors that may explain this scarcity of works may be the near lack of

³ Obviously, we recognize that this is a very small number of publications and that a more extensive analysis is needed. Therefore these data should be treated with caution.

mechanisms and sources of funding specifically for research into development and the countries of the South. This has been recognized even in official reports (Alonso, 1999) that, in addition to consciousness-raising, information, and education on development, refer to research on development and international aid. The referenced report proposes the need for promoting study and research into the South, development policies, and the role of international aid. It proclaims the need for a body of experts and researchers, and that these issues should be raised in graduate and post-graduate degree programs. It is here that the key role that universities, departments, and research centers have in this task. For this to be possible, the Administration must create specific sources of support for study into these subjects in cooperation with or through other institutions such as the CICYT. This document formulates more detailed proposals in this regard, especially so that research on development should not have to fall under the program co-supported by the ONGD: leading to the creation of *ad-hoc* organizations seeking funds and the problems with distortion that this represents (Alonso, 1999).

Besides research on the countries of the South, Spanish universities have recently adopted a more active role in the practice of development as another facet in their process of internationalization. Within this new framework, according to Jesús Sebastián (2000), universities are becoming both the objects and agents of cooperation. The author distinguishes between two models of university cooperation: a spontaneous model that tends to produce short-lived projects, and a model that is integral and leads to more stable and sustainable cooperation. Among the areas where this cooperation has had an influence is post-graduate and doctoral training, as well as research done by joint projects and research networks.

It has not been possible to collect and systematize enough information about the experiences of Geography departments in this area ⁴. We recognize that this task is still pending and we therefore refer only to a few examples for illustration without disparaging those going un-mentioned. Among Spanish Geography departments that have experience in the area of development and/or research into the South, we can cite the example of the *Universitat de Barcelona*, where a group of geographers work within the framework of *Centre d'Estudis d'Amèrica Llatina* (Center for Latin American Studies) and MEDAMERICA network. These groups have done work on agricultural boundaries, irrigation, rural development, etc. (Luzón and Linck, 1997; Lluch and Albet, 1998). The Geography Department of the *Universitat de Girona* has done studies on regional and urban planning in Nicaragua (Bru, Castañer, and Vicente, 1998). Other Geography departments in Spain that have undertaken work in the area of development are the *Universitat Jaume I de Castelló*, the *Universidad Complutense de Madrid*, and the *Universidad Autónoma de Madrid*, among others. Other initiatives worth mentioning are, for example, the work of the *Red Iberoamericana de Investigadores sobre Globalización y Territorio* (Ibero-American Network of Researchers on Globalization and Territory) which brings together scholars from various disciplines and countries (Caravaca, Mendez & Revel, 1998), as well as the Working Group on Latin America of the *Asociación de Geógrafos Españoles* (Association of Spanish Geographers).

⁴ The author would appreciate receiving any information in this regard for inclusion in future reports.

4. GEOGRAPHERS WORKING IN THE FIELD OF DEVELOPMENT

It is quite difficult to calculate the number of geographers involved professionally in development since, as is true with other professions, they may be working under non-geography job titles. To this difficulty found at the outset is to be added the fact that the number of geographers working in this field is extremely low. The most recent data on this issue, while still provisional, are found in the Spanish College of Geographers document on Geography's professional profile (Tulla, 2004). Among the 36 types of work defined in a questionnaire directed to members of the College, only 1.8% of the total number polled said that "Cooperation and Solidarity" is an important area of their work.

Even though the sample size may be insufficient since not all geographers are affiliated, the data confirms that there are few geographers involved in this field. But it is precisely because it is a new and expanding field that we are certain that it holds out possibilities for geographers in the future. We limit ourselves to commenting on activities in non-governmental development agencies and consultants, even though there are other areas where development work is carried out at various levels of European agencies or international organizations for which there is no systematized information or classification by professional credentials.

4.1. *Non-governmental development organizations*

Non-governmental organizations (NGOs) involved in development count on various kinds and levels of participation on the part of personnel. We may draw a basic distinction between volunteers who provide work on an unpaid basis, and contracted professionals who draw a salary (Apraiz, et. al. 1998). Given the scant information available on volunteers' professional background, in this paper we will focus on the latter of the two despite limited information. This dearth of information is made manifest in a recent doctoral thesis (Cerdá Morales, 2003), which refers to the personnel of these organizations in a generic way, by distinguishing only between paid staff and volunteers inside or outside Spain while not providing further details about their professional background and training.

In view of the lack of published data, we have gone directly to the principal development NGOs of Spain to obtain information on volunteer and professional geographers on their staffs. Sixteen NGOs⁵ were contacted, of which only six responded to our request. Four of the six responses were negative, confirming that they employed no geographers, while two responded that they did not have the information requested. On the basis of the responses received, we conclude that the number of geographers working in development NGOs is not significant.

On the other hand, we reviewed the offers of employment that appear regularly on the web of the Spanish Development NGOs Coordinating Committee (www.congde.org)

⁵ The NGOs were selected on the basis of income, and are as follows: Acción contra el Hambre, Ayuda en Acción, Caritas, Codespa, Red Cross, Fundación Promoción social de la cultura, Intermón-Oxfam, Manos Unidas, Doctors of the World, Medicus Mundi, Doctors without Borders, Movimiento por la paz, el desarme, y la libertad, Personas, Paz y Tercer Mundo, Solidaridad Internacional, and the Spanish Committee of Unicef.

and found that none of them specified a Geography degree as a job requirement. Among the requirements found were: medicine, marketing, public relations, economics, education, business, psychology, pedagogy, sociology, communications, and social work. Even so we would like to think that geographers might be hired when they specify "other qualifications may be considered."

The Association of Spanish Geographers (AGE) has recently incorporated the definition and execution of aid programs as one of its new objectives. This means cooperating with development organizations. Therefore, the AGE and Intermon-Oxfam are now cooperating after signing an agreement. AGE has also established contacts with the Spanish Agency for International Cooperation (AECI) and the Spanish Development NGOs Coordinating Committee with the goal of involving geographers in international aid projects (www.ieg.csic.es/age).

4.2. Development experts in consulting firms

Geographers might consider working as experts on a professional basis, whether or not they are specialized in development-related issues. We do not have data on the involvement of geographers in this area, but since many consulting firms are multi-disciplinary in nature, it remains a possibility. While this professional diversity also implies greater competition (Benabent, M., and Mateu, X. 1995-96), geographers would be valuable to these firms because of their knowledge of and interest in places. (Zoido, 2001). This seems to us to be an area where the demand for professionals may grow in the future, since Spain is relatively behind other countries in the growth of these firms. Factors such as political realities and a late accession to the European Community, combined with the fact that Spain was until recently a recipient of foreign aid, contributed to this delay (Rué, 2002).

The weakness of this sector is found principally in the awarding of contracts on the international level, and it is therefore that the Spanish government has tried to encourage greater involvement of Spanish firms. At the same time, demand may increase because of the greater requirements for control and evaluation in development projects even within the area of NGOs. Finally, we must point out that like any sector of the economy, consultants must adapt to changes in models of development, as well as satisfy new demands, new focuses, new subjects and new geographic areas (Rué, 2002). We believe that these changes may bring about greater involvement by geographers in consulting firms, or even the creation of new firms by these professionals. Among these demands, we refer to environmental studies and gender studies, which are ever more notable in impact studies and diagnoses as well as in those where Geography has played an important role in recent decades, and the specialization in regions such as Eastern Europe, the Near East and Southern Mediterranean, where Spain has diversified its interests beyond its traditional ties to Latin America.

5. CONCLUSIONS

In view of the various aspects and indicators analyzed, we conclude that the role of Spanish Geography in development is currently quite small. This is because of the following factors:

- scarcity of university courses relating specifically to development and the geography of the South;
- scarcity of Geography departments that organize or coordinate post-graduate or Masters courses in development;
- scarcity of research and publications dealing with the South;
- scarcity of funding sources specifically for research in this area;
- scarcity of affiliated geographers who claim development as a principal area of work;
- scarcity of demand for geographers in job offers among development NGOs.

Although the aforementioned landscape of failings may be disheartening, in closing we would like to offer some cause for optimism. Many of these scarcities or problems are not exclusive to Geography but are shared by other disciplines; they are the result of the delay in aid from Spain, especially in the relation to the process of professional training. As has been mentioned earlier, this is a growing area where geographers have a better chance of employment than in the more established areas. Demand for competent and professional specialists in this area will continue to grow due to the quality control requirements imposed by development NGOs and funding sources. Any reform of university courses should take this into account so that adapting this training to other degree programs will not come at the cost of the study of the countries of the South. The reforms now underway, however, should provide an opportunity for offering some sort of secondary-level degree in Development from a geographic point of view. Finally, action should be taken since until now the background of professionals involved in development has been ignored by studies into Geography or applied geography as a profession. This is perhaps because it is associated with the study of places and traditional approaches of the discipline (Troitiño, 1992; Benabent and Mateu, 1995-96; Philiponneau, 2001), and that we find it cited in only an exceptional manner (Talbot, 2000).

What then does not make much sense is that the upsurge and growth of Development as a profession in Spain should take place beyond the reach of geographers. We are convinced that Geography has much to say and contribute to this area, as it does in many countries.

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THE INTERNATIONALIZATION OF GEOGRAPHY IN SPAIN

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The internationalization of the practice of Geography in Spain has been the subject of several studies that have analyzed its receptiveness to the other traditions in Geography as well as to the new developments in international Geography today. If we take into account that the internationalization of a science is part of a process of methodological, conceptual, and thematic renewal, then the studies done on the internationalization of Geography in Spain indicate recent changes towards conceptual innovation and renewal (Garcia-Ramon, Belil, Clos: 1998; Garcia-Ramon, Nogué i Font, Albet i Mas: 1992). For this type of study, bibliometrical studies (Albet i Mas, Garcia-Ramon, Nogué i Font: 1992; Gutiérrez, López-Nieva: 2001; Garcia-Ramon, 2003; Rodríguez-Pose: 2004) provide a greater amount of information. It is the quantitative analysis of internationalization that allows a look at such diverse factors as: the countries and intensity with which relations are maintained, thematic/methodological innovations and new channels for dissemination provided by these countries, as well as other aspects of internationalization.

In this report, we have looked at the internationalization of Geography in Spain with a bibliometric analysis of various Spanish and foreign journals since we believe that these periodical publications are the most representative of scientific endeavor. On one hand, we analyzed the composition of the advisory boards of a number of Spanish and foreign geographic and non-geographic journals, while on the other we looked at contributions by foreigners to Spanish journals and Spanish contributions to the body of journals indexed in the National Citation Report. On the whole, this approximation will allow us to arrive at some conclusions about the current level of internationalization of Spanish Geography.

1. FOREIGN CONTRIBUTIONS TO GEOGRAPHY IN SPAIN

1.1. *Participation by foreigners on advisory councils of Spanish geographic journals*

The presence of foreign geographers as advisors on the committees of Spanish geographic journals is a good indicator of the level of internationalization of the discipline since this often implies a greater number of foreign articles, as well as adherence to international standards since these advisors are generally anonymous. Finally, their presence is a reflection of the international contacts made by the departments or institutions that publish the journals. This report considers journals currently published by Spanish university Geography departments (22), geographic societies (4), and the journals *Estudios Geográficos* and *Pirineos*¹ of the Council on Advanced Scientific Research (CSIC) of Spain: a total of 28 journals.

The level of internationalization among these journals is quite high, since 23 of them have international advisory boards and an average of six foreign advisors each. Nevertheless, the national origin of these foreign advisors is quite concentrated. Table 1 shows the relative importance of French advisors: in each of the 23 international journals analyzed there is at least one French advisor. This presence of French advisors is a constant in almost all of the indicators that we will analyze. Trailing behind at some distance are advisors from Great Britain, followed by Mexico, Argentina, and nearby Portugal and Italy. The total number of countries represented in Spanish journals is 28; eleven of them are represented by no more than one advisor.

Taking into account the absolute number of foreign advisors and their relative weight among the advisory councils of the various journals (Table 2), the most international of the Spanish journals are: *Pirineos*, the *Boletín* of the Royal Geographic Society of Spain, *Anales* of the Complutense University of Madrid, *Serie Geográfica*, *Revista Geográfica*², *Biblio 3W*, *Scripta Nova*, and *Documents d'Anàlisi Geogràfica*. In all of these, more than 50% of each advisory council is constituted by foreign geographers or have at least 10 or more foreign advisors. At a second level are those journals having councils that are 30% to 40% foreign, being five or more foreign geographers. At this second level are: the *Boletín* of the Association of Spanish Geographers (AGE), *Polígonos*, *Estudios Geográficos*, *Treballs* of the Geographic Society of Catalonia, *Geofocus* of the Autonomous University of Madrid, and *Geographicalia*. Of these thirteen journals, eleven are published by universities in Madrid and Barcelona, geographical societies, and the CSIC. Therefore, according to this indicator, these institutions are more open to international Geography. Most prominent, however, is the level of internationalization shown by *Polígonos* and *Geographicalia* of the University of León and the University of Zaragoza, respectively.

¹ This journal, published by the Pyrenees Institute on Ecology publishes many articles by Spanish geographers.

² This takes into account the international advisors noted by Vol. XXXII-XXXIII (1988-89), the last issue of the first publication run, since Vol. I – 2002 (the first volume of the second run) still does not yet have an advisory board.

TABLE 1. Countries of origin of foreign advisors on the boards of Spanish journals

Country of origin	Nº of journals		Country of origin	Nº of journals
France	23		Germany	2
Great Britain	12		Netherlands	2
Mexico	9		Venezuela	2
Italy	9		Romania	1
Portugal	8		Russia	1
Argentina	8		Sweden	1
Chile	6		Australia	1
USA	6		Israel	1
Switzerland	4		Japan	1
Brazil	4		Colombia	1
Poland	3		Peru	1
Canadá	3		Puerto Rico	1
Ireland	3		New Zealand	1
Austria	3		Nepal	1

Tables 1 and 2 also show that European advisors are clearly in the majority. In all of the journals, their internationalization is mostly by virtue of their European contacts. There are, nonetheless, some exceptions, i.e.: *Revista de Geografía*, *Scripta Nova*, and *Biblio 3W* of the University of Barcelona, and *Geofocus* of the Autonomous University of Madrid, whose principal international ties are to Latin America.

Likewise, the distribution of linkages with various countries offers distinct models. In Europe, relations with France are monopolized by the University of Toulouse-Mirail on one hand, and secondly, by the University of Aix-Marseille. As for Portugal, relations are focused mostly on the University of Lisbon. However, with the United Kingdom and Italy there are relations with a great number of different centers. In Latin America, examples of both kinds of relations are to be found. For example, the National Autonomous University of Mexico provides nearly all of the advisors from Mexico; the same is true for Chile, where the Pontifical Catholic University provides the majority of Chilean advisors. Argentina and Brazil, however, offer a different example. Advisors from these two countries are not concentrated in any one particular university.

TABLE 2. **Region of origin of foreign advisors on the boards of Spanish journals.**

Journal	Total n° of countries	Advisors						
		Europe	US. Canada	Latin America	Others	Total journals	Total foreign	% foreign
Pirineos	13	10	3	3	1	25	17	68
Boletín de la RSG	10	7	2	1		20	10	50
Anales de la Complutense	8	8	1	2		11	11	100
Serie Geográfica	7	5	1	2	1	13	9	69
Revista de Geografía	7	4	1	4		12	9	75
Biblio 3W	7	4		6		24	10	42
Scripta Nova	7	3		11		34	14	41
Boletín de la AGE	6	5	1	2		21	8	38
Polígonos	6	6				18	6	33
Estudios Geográficos	6	4		2		14	6	43
Documents d'Anàlisi Geo.	6	7	2	1		17	10	59
Treballs de la SCG	5	5	1		1	22	7	32
Geofocus	5	2		3		14	5	36
Ería	4	3		2		29	5	17
Geographicalia	4	5		1		17	6	35
Cuadernos de Invest. Geo.	3	3		1		19	4	21
Papeles de Geografía	2	4				17	4	24
Cuadernos Geográficos	2	2		1		8	3	38
Investigaciones Geográficas	2	2				8	2	25
Cuadernos de Geografía	2	3	2			12	5	42
Revista de Estudios Region.	2	1		1		11	2	18
Territoris	1	2				11	2	18
Cuadernos de Turismo	1	2				14	2	14

1.2. Contributions by foreign authors to Spanish geographic journals.

In order to analyze Spanish Geography's international relations, we believe that articles by foreign authors in Spanish journals are another good indicator, since they always indicate some sort of tie between these authors and Spain. In this report, we have taken into account not only those contributions coming from abroad, but also those from foreign authors during temporary residence in Spanish universities. This report covers the period from 1980 until the present day ³. A group of six journals in all are considered sufficiently representative of Spanish geographic endeavor, e.g.: the *Boletín de la Asociación de Geógrafos Españoles*, published by the Association of Spanish Geographers (AGE); the *Documents d'Anàlisi Geogràfica*, published by the Economic and Geographic Institute of the CSIC; *Ería*, published by the University of Oviedo; *Investigaciones Geográficas*, published by the University of Alicante; and the *Boletín de la Real Sociedad Geográfica*, published by the Royal Geographic Society of Spain (even though in Barcelona we have

³ The issues consulted are from Boletín de la Asociación de Geógrafos Españoles, 1980-1992; Documents d'Anàlisi Geogràfica, 1980-1992; Ería, 1980-2003; Estudios Geográficos, 1980-2002, Investigaciones Geográficas, 1980-2003

been able to acquire only those issues published from 1980 to 1992).

TABLE 3. Articles signed by foreign authors in Spanish journals since 1980

Journal	Total articles	Foreign articles	
		Total	%
Boletín de la AGE	268	23	8,6
Investigaciones Geográficas	295	7	2,4
Documents d'Anàlisi Geogràfica	214	77	36,0
Estudios Geográficos	510	92	18,0
Ería	308	24	7,8
Boletín de la RSG	140	9	6,4
TOTAL	1.735	232	13,4

The total number of articles by foreign authors found in these journals is 232, a figure that represents 13.4% of the 1,735 articles published by the six journals in question during the study period (Table 3). This number reveals the relatively intense relationship that exists between Spanish and international Geography. Nevertheless, the number of foreign contributions varies greatly among the journals. The publications that have the greatest number of articles signed off by foreign authors are *Estudios Geográficos* and *Documents d'Anàlisi Geogràfica*. In absolute numbers, the former has the most foreign articles (92), being 18% of articles published by that journal since 1980. However, while *Documents d'Anàlisi Geogràfica* has a higher percentage of articles signed by foreign authors (36%), in terms of absolute numbers it is somewhat the lesser (77). Following behind at some distance are the *Boletín* of the AGE, and *Ería*. The first of these two has a total of 23 foreign articles (8.6% of the journal's total) while the second had 24 foreign articles for a lesser percentage (7.8%) of its total. In last place are the *Boletín de la Real Sociedad Geográfica* (9 articles) and *Investigaciones Geográficas* (7), which represent 6.4% and 2.4% of the totals of each journal, respectively.

TABLE 4. Evolution of the number of foreign articles in Spanish journals since 1980.

Journal	1980-84	1985-89	1990-94	1995-99	2000-04
Boletín de la AGE	1	2	1	6	13
Investigaciones Geográficas	0	0	1	3	3
Documents d'Anàlisi Geogràfica	1	15	15	33	13
Estudios Geográficos	8	17	32	29	6
Ería	0	0	7	10	7
Boletín de la RSG	2	1	6	-	-
TOTAL	12	35	62	81	42
TOTAL (%)	5,2	15,1	26,7	34,9	18,1

Nevertheless, it is important to point out that an analysis of foreign contributions as measured over five-year periods shows significant growth in the number of international contributions to these journals (Table 4). Between 1980 and 1984, there were only 12 foreign articles (8 of which were in *Estudios Geográficos*), while during the following

five-year period (1985-1989) there were 35. This tendency towards growth was confirmed by the following two five-year periods (1990-1994 and 1995-1999) which had 62 and 81 articles, respectively. According to the table, it appears that this growth was slowed after 2000. However, we believe that this decline is due to the fact that the current five-year period has not yet ended and because the most recent issues of these journals are yet to be published, or yet to be received by libraries.

To be noted also is that foreign articles underwent distinct forms of development in each of the journals. *Estudios Geográficos* and *Documents d'Anàlisi Geogràfica* shows a significant proportion of articles signed by foreign authors during the 1985-1999 period, and especially during the 1990s. This percentage drops notably after the year 2000. On the other hand, other journals having formerly published fewer foreign authors are now experiencing considerable growth over the last two years, e.g. the *Boletín* of the AGE, and *Ería*. It was during the 1980s and the beginning of the 1990s that, among journals that had had no notable number of foreign articles, there was a considerable change about 1995 when these journals published a total of 17 and 19 foreign articles each, respectively. This trend towards seeking authors from beyond our borders was also notable in the journal *Investigaciones Geográficas*, albeit to a lesser extent. In the case of the *Boletín* of the Royal Geographic Society, a lengthy series of articles on Latin America written mostly by foreign authors was published in 1992, lessened the merits of any criticism of this development. However, the impact of the journal's celebration of the quincentenary of the discovery of America should also be noted. Nevertheless, among the journals that had less participation by foreign authors there was observed a convergence of interests showing willingness to entertain a greater international presence. On the contrary, the journals that during this first five years period showed more open-ness to the outside world have lately reduced the amount of international contributions.

As for the gender of the persons who signed the foreign articles (Table 5), it is men who represent the greatest percentage (55.6%). Nonetheless, it is important to point out the number of foreign female authors who have contributed to Geography in Spain by way of the journals studied here; they account for almost a third of the total (28.4%), a comparatively larger proportion than is customary in Geography journals published outside Spain. The rest of the articles are distributed among those having authors of both genders (11.2%), and unknown (4.7%).

TABLE 5. Articles signed by foreing authors by gender

Journal	Men	Women	Both	Unknow
Boletín de la AGE	15	4	4	0
Investigaciones Geográficas	6	1	0	0
Documents d'Anàlisi Geogràfica	38	36	3	0
Estudios Geográficos	50	22	13	7
Ería	18	1	3	2
Boletín de la RSG	2	2	3	2
TOTAL	129	66	26	11
TOTAL (%)	55,6	28,4	11,2	4,7

Therefore, the journals having the most balanced participation by both men and women are: the *Boletín* of the Royal Geographic Society (although having insignificant

absolute numbers: 2 men vs. 2 women), and the *Documents d'Anàlisi Geogràfica* (38 men vs. 36 women). These are followed, although at some distance, by *Estudios Geográficos* (50 men vs. 22 women). This is a difference that grows among the remainder of the journals studied, which show a very low rate of participation by foreign female authors.

In order to produce a more detailed and "geographic" study of Spanish Geography's international relations, we have included the national origin of each of the authors who has contributed to the journals mentioned (Table 6). The five countries which having the closest relationship with Spanish Geography and provided the most contributions are: France, the United States of America, Mexico, Argentina, and the United Kingdom. Contributions coming from Italy, Cuba, Russia, Chile, and Germany are also worthy of mention. Nevertheless, if we sum up the authors' countries of origin according to large geographic areas, then Latin America unarguably represents the greatest number of contributors (30.4%). Also, the contributions (9.7%) made by foreigners residing for short or long periods of time in Spain should not be overlooked; it should be noted that these stays-usually linked to the universities- also reinforce the relations between Spanish geographers and international Geography.

TABLE 6. Countries of origin of foreign authors in Spanish journals.

Country	Contributions*	%	Country	Contributions*	%
France	27	11.4	Brazil	3	1.3
USA	25	10.6	Puerto Rico	2	0.8
Mexico	22	9.3	Denmark	1	0.4
Argentina	22	9.3	Switzerland	1	0.4
U. K.	19	8.1	Norway	1	0.4
Italy	12	5.1	Israel	1	0.4
Cuba	11	4.7	Morocco	1	0.4
Russia	11	4.7	Peru	1	0.4
Chile	10	4.2	Costa Rica	1	0.4
Germany	8	3.4	Australia	1	0.4
Portugal	5	2.1	Japan	1	0.4
Poland	5	2.1	Spain	23	9.7
Netherlands	4	1.7	Unknown	10	4.2
Greece	4	1.7	TOTAL	236	100.0
Canada	4	1.7			

* There are a total of 236 contributions, despite the fact. that there are 232 foreign articles since some are co-written by authors from different countries..

The geographic provenience of foreign authors is again quite diverse according to the journals in question. For example, in the cases of *Estudios Geográficos* and the *Boletín* of the Royal Geographic Society, the contributions from Latin America represent more than half of the total. In *Documents d'Anàlisi Geogràfica* however, contributions from the English-speaking world reach 41.6% while those from southern Europe (excluding France) reach but 18.2%.

TABLE 7. Scale of analysis of the articles signed by foreign authors

Journal	Scale		
	Worldwide	Spain	Non-specified
Boletín de la AGE	7	5	11
Investigaciones Geográficas	2	5	0
Documents d'Anàlisi Geogràfica	48	6	23
Estudios Geográficos	73	8	11
Ería	20	4	0
Boletín de la RSG	7	1	1
TOTAL	157	29	46
TOTAL (%)	67,7	12,5	19,8

As for the areas of study upon which the articles focused their attention (Table 7), somewhat more than two-thirds were directed outside of Spanish territory, a fact that contributes to broadening of Spanish geographic interests. Nevertheless, it should be pointed out that 19.8% of the total foreign contributions to these journals are of a theoretical/methodological nature (i.e. non-localized) that are a boost to both theory and methodology in Spanish Geography.

TABLE 8. Topics of the articles signed by foreign authors in Spanish journals

Journal	Concepts & methods	Techniques	Population Geography	Economic activity	Regional planning	Environment	Rural Geography	Urban Geography	Geography & gender	Others
Boletín AGE	10	1	2	2	2	6	0	0	0	0
Investig. Geo.	0	0	3	1	0	2	0	0	1	0
Doc. An. Geo.	28	0	2	5	4	8	2	5	23	0
Estudios Geo.	9	8	12	15	6	25	5	8	1	3
Ería	2	0	2	8	4	2	2	4	0	0
Boletín RSG	2	0	0	0	0	0	1	6	0	0
TOTAL	51	9	21	31	16	43	10	23	25	3
TOTAL (%)	22,0	3,9	9,1	13,4	6,9	18,5	4,3	9,9	10,8	1,3

With reference to the subject-matter of foreign contributions, the articles have been classified into nine categories plus one ("others") as reflected in Table 8. The category having that shows the greatest percentage of articles is "Concepts and methods", a fact that underscores that fore-mentioned importance of foreign theory and methodology for Spanish geography. The journals most notable in this regard are: *Documents d'Anàlisi Geogràfica*, with more than half of its foreign articles in this category, and at some distance is the *Boletín* of the Association of Spanish Geographers (AGE) and *Estudios Geográficos*. Environmental issues constitute the second-most cited issue, representing almost a fifth of the corpus of articles studied. It is here that *Estudios Geográficos* is important, since it has published almost two-thirds of the foreign articles on this subject. To be also mentioned is the great number of foreign articles on geography and gender, an innovative subject that especially comes through in *Documents Anàlisi Geogràfica*, which has published almost the entirety of the articles on this subject. In fact, the percentages represented by the three aforementioned subject-matters amounts to 51.3% of the total foreign contributions to the journals studied. This number is quite indicative of the relatively important efforts by foreign

authors towards thematic and theoretical/methodological innovation in Spanish Geography.

2. SPAIN'S CONTRIBUTIONS TO INTERNATIONAL GEOGRAPHY

2.1. Spanish participation on advisory boards of foreign geographical journals

The composition of advisory boards of geographic journals is a good indicator of the level of internationalization of the discipline. Therefore, we have done an analysis of various foreign geographic journals (as well as the non-geographic journal *Sociologia Ruralis*, that frequently publishes works by Spanish geographers) in order to visualize the role played by Spanish geographers on their advisory boards.

Table 9 allows us to see that there is an acceptable level of Spanish participation in foreign journals; we find it in 16 countries and 30 journals. Taking into account the difference countries, the Spanish presence in UK and US advisory boards show that it is Anglo-phone Geography that has the greatest percentage of advisors from Spain (40%). However, the scant degree of Spanish participation in journals from France is rather surprising. We have found Spanish geographers in but three of them. The factor of geographical closeness does not appear sufficient in fostering this relationship among scientists. The same appears to be the case for Portuguese and Italian geographic journals, which despite their small number would have been expected to have a greater Spanish presence. In Latin America, only 7 journals have a Spanish presence.

TABLE 9. Spanish participation on advisory boards of foreign journals

Country	Journal	Source of advisors
France	Revue Géographique des Pyrénées et du Sud-Ouest	Univ. de Zaragoza Univ. de Navarra Univ. Autónoma de Madrid
	Méditerranée	Univ. de Barcelona Univ. de las Islas Baleares Univ. Complutense de Madrid Univ. de León
		Univ. de Barcelona
Great Britain	Géographie et Cultures	Univ. Autónoma de Barcelona
	International Journal of Urban and Regional Research	Univ. de Barcelona
	Journal of Geography in Higher Education	Univ. Autónoma de Barcelona
	Sociologia Ruralis	Univ. Autónoma de Barcelona
	Population Geography	Univ. de Zaragoza
	Progress in Human Geography	Univ. Autónoma de Barcelona
	European Urban and Regional Studies	Univ. Autónoma de Barcelona
	Journal of Transport Geography	Univ. Autónoma de Barcelona
	Geo:connexion	Univ. Jaume I
Ireland	Social & Cultural Geography	Univ. Autónoma de Barcelona
Poland	Actas Latinoamericanas de Varsovia	Univ. de Castilla – La Mancha
Finland	Fennia	Univ. de Barcelona
Netherlands	TESG	Univ. Autónoma de Madrid
Portugal	Finisterra	Univ. de Barcelona
Italy	Rivista Geografica Italiana	Univ. de Barcelona

Continue

Germany Chile	Migrations EURE	Univ. Autónoma de Barcelona Univ. de Sevilla
		Univ. Complutense de Madrid
	Revista Geográfica de Valparaíso	Univ. de Barcelona
	Norte Grande. Revista de Geografía	Univ. de Barcelona
Venezuela México	Revista Geográfica Venezolana Investigaciones Geográficas	Univ. Complutense de Madrid Univ. de Barcelona
		Univ. Complutense de Madrid
Perú Argentina	Espacio y Desarrollo Boletín de Estudios Geográficos	Univ. de Salamanca Univ. Autónoma de Barcelona Univ. de Barcelona Univ. Autónoma de Madrid Univ. de Barcelona
USA		Univ. de Castilla – La Mancha
	Antipode	Univ. del País Vasco
	The Arab World Geographer	Univ. Autónoma de Barcelona
	Mountain Research Development	CSIC (Jaca)
	Ocean & Coastal Management	Univ. de Sevilla
Canada	Cahiers de Géographie du Québec	Univ. de Barcelona

The participation by Spain is limited in general to just one Spanish geographer per advisory board. Nevertheless, Spanish participation in some journals is greater than in others, whether it means the inclusion of more than one geographer, or whether it means membership on editorial boards rather than advisory boards or as correspondents. Therefore, the Spanish presence on the *Revue Géographique des Pyrénées et du Sud-Ouest* of the Geographic Institute of the University of Toulouse-Le Mirail is remarkable, since there is one Spanish geographer among the four editors and three on a 30-person editorial board (where there are also one Portuguese, two Germans, and two Italians). Also of note are the five Spanish geographers at the *Boletín de Estudios Geográficos* of the Cuyo National University of Argentina, as well as the Spaniards on the editorial board of the *International Journal of Urban and Regional Research*. The fact that Spanish geographers are present at five of the sixteen journals included in the *National Citation Report* is also worthy of note.

If we look at the universities to which belong the Spanish geographers on these boards, we can observe a remarkable concentration. In effect, 42 Spanish contributors are concentrated in but 14 universities, among which the most important are: the University of Barcelona and the Autonomous University of Barcelona (10 and 11, respectively), the Complutense University of Madrid and the Autonomous University of Madrid (5 and 3, respectively), followed by universities in Seville, Zaragoza, and Castile-La Mancha. This concentration in so few universities is also reinforced by the small number of persons involved: although there are 25 Spaniards on the advisory boards of these journals, more than 50% of these are from the universities from Madrid and Barcelona, and just three geographers make up 25% (three from Barcelona's universities) of the total Spanish participation. Nevertheless, the universities of Barcelona offer a quite different model: the University of Barcelona is well represented in Latin American journals (5 of 13) as well as the Autonomous University of Barcelona in Anglo-phone journals (50% of total Spanish participation).

2.2. Contributions by Spanish authors to international journals indexed by SCI, SSCI, and the A&HCI

The publication of Spanish geographers by foreign journals is another aspect that should be studied in order to detect and measure Spanish scientific contribution to international Geography. Due to lack of data, in our analysis we will only refer to indexed journals. These are included in the *National Citation Report* (NCR) of the US-based *Institute of Scientific Information* (ISI), which maintains three important data-bases: *Science Citation Index* (SCI), the *Social Science Citation Index* (SSCI), and the *Arts and Humanities Citation Index* (A&HCI). The ISI also publishes the *Journal of Citations Report* (JCR), a yearbook that publishes the degree of impact that each journal has (mostly English-language journals).

We are aware that, for many reasons, publication in these indexed international journals does not reflect a great bulk of Spanish geographic research nor is it the most important link between Spanish Geography and international Geography. Nonetheless, results show which publications have the greatest international visibility. It is true that there are many foreign journals that publish articles signed by Spanish authors but many of these journals are not indexed (and if they are not published in English probably they will not be included in the SCI, SSCI, and A&HCI data-bases. We were able to have access to this information through the Interdepartmental Commission on Research and Technological Innovation of the Department of Universities, Research, and Society of the Government of Catalonia.

The period under study is 1980 to mid-2000. For these years, the documents signed by Spanish authors were located thanks to the membership list of the Association of Spanish Geographers (AGE). The addresses of the signers (whether from academic departments, laboratories, research groups, etc.) that appear in the *National Citation Report* for Spain were also useful. It was therefore that 262 documents were found that were signed by at least one Spanish geographer, Geography department, or similar entity. This methodology guaranteed that papers that appeared in non-geographic journals would also be included, which is very important given the enormous inter-disciplinary nature of our discipline's subject-matters. From a methodological point of view, it should be pointed out that 80% of the documents are articles, while the rest are proceedings and book reviews.

The results are quite interesting. The 262 documents are distributed among 123 journals, while in only 24 of them are there more than 3 documents each (Table 10). We would like to point out in particular the first three journals of the ranking: *Catena*, with 20 documents, *Geomorphology*, with 13, and *Zeitschrift für Geomorphologie*, with 10; the first two of these are published in English in the Netherlands, while the third is published in Germany and alternates between German and English. It should also be pointed out that while 14 of these 24 journals deal with Physical Geography, and the other two deal with technical matters, none of them are specifically geographic journals. The remaining journals in the ranking deal with Human and Regional Geography, while 5 deal specifically with Geography (2 of the 8 are published in the Netherlands, but in English). To be also mentioned is the undisputable preponderance of Physical Geography, inasmuch as the first three journals in the ranking contain 43 documents or 17% of the total. Also to be highlighted is the role of the two technical journals that appear on the table. However, Human and Regional Geography play a lesser role, especially when taking

into account the fact that Spain has more experts in that area than Physical Geography.

TABLE 10. Documents published by Spanish Geography in some indexed journals (Ranking of the first 24 journals)

Journal	Documents	%*
Catena	20	7,6
Geomorphology	13	5,0
Zeitschrift für Geomorphologie	10	3,8
Internacional Journal of Climatology	9	3,4
Climatic Change	8	3,1
Earth Surface Processes and Landforms	7	2,7
International Journal of Remote Sensing	6	2,3
Mountain Research and Development	6	2,3
Hydrological Processes	6	2,3
Physics and Chemistry of the Earth	6	2,3
Photogrametric Engineering and Remote Sensing	4	1,5
Ocean and Coastal Management	4	1,5
European Urban and Regional Studies	4	1,5
Palaeogeography Palaeoclimatology Palaeoecology	3	1,1
Journal of Geography in Higher Education	3	1,1
Soil Technology	3	1,1
Political Geography	3	1,1
Quaternary Science Reviews	3	1,1
Sociologia Ruralis	3	1,1
Environment and Planning A	3	1,1
Forest Ecology and Management	3	1,1
Economic Geography	3	1,1
Regional Studies	3	1,1
Tijdschrift voor Economische en Sociale Geografie	3	1,1

* A total of 262 documents..

The evolution of the number of these publications show the growing open-ness over time of Spanish Geography, a process in which the key elements have been the consolidation of the degree in Geography ("licenciatura") and the participation in European programs. (e.g. the *Erasmus* program, the European research projects). It is worthy to point out that during the first period (1981-1988) the number of published documents was almost a symbolic one (only 12). In the second period (1989-1994), the number increases slightly (51 documents). And in the third period (1995 to mid-2000), growth has been spectacular since in less than six years 199 documents were published.

In order to provide, from a methodological standpoint, a panoramic view of the spatial distribution of these contributions, we need to handle 326 documents. This increase in the number comes about because one document may have several authors and is therefore counted according to the number of contributors. If we provide an analysis on the basis of Autonomous Communities (Table 11), Valencia, Madrid, and especially Catalonia, would be in the first ranks with 30% of the total documents. But it is case of the community of Valencia that is notable, since it has only 96 members of AGE, as

opposed to 205 in Madrid and 136 in Catalonia.

TABLE 11. Ranking of the number of documents (by Autonomous Community) signed by Spanish geographers in the indexed journals

Autonomous Community	Documents*	%**
Cataluña	76	29,0
Comunidad Valenciana	59	22,5
Madrid	58	22,1
Andalucía	31	11,8
Aragón	30	11,5
Murcia	20	7,6
Castilla y León	11	4,2
Galicia	10	3,8
Cantabria	8	3,1
La Rioja	5	1,9
Islas Baleares	4	1,5
Canarias	4	1,5
Extremadura	3	1,1
País Vasco	3	1,1
Asturias	2	0,8
Castilla – La Mancha	2	0,8
TOTAL	326	124,4

* The total number of documents is greater than 262 because of co-authorship.

** Based on a total 262 documents. The total sum is greater than 100% due of the effect of co-authorship.

With regard to international collaboration, we found Spanish/foreign co-authorship in 56 of the 262 documents, consisting of the quite substantial 21.4% of the total (Table 12, where the total is greater than 262 because co-authorship). This international collaboration is undertaken by a great diversity of countries (23), although European countries (80% of the total) are in the majority. This is probably due to their geographical closeness, but also due to academic cooperation fostered by the various aforementioned programs of the European Union. As far as the Autonomous Communities are concerned (Table 13), Catalonia has the greatest absolute numbers of collaborations, even though it is closely followed by Valencia, and then by Andalusia and Madrid.

TABLE 12. Spanish/foreign collaboration in the indexed international journals
(Ranking by countries)

Country or origin	Colaborations*	%**	Country or origin	Colaborations*	%**
England	12	21.4	Belgium	3	5.4
Italy	11	19.6	Czech Republic	3	5.4
Switzerland	9	16.1	Hungary	3	5.4
USA	8	14.3	Scotland	2	3.6
Netherlands	8	14.3	Northern Ireland	2	3.6
Germany	7	12.5	Iceland	2	3.6
France	7	12.5	Canada	2	3.6
Greece	6	10.7	Denmark	2	3.6
Israel	4	7.1	Japan	1	1.8
Portugal	4	7.1	Poland	1	1.8
Mexico	3	5.4	Venezuela	1	1.8
Sweden	3	5.4			

* The total is greater than 56 due to the effect of co-authorship.

** Based on a total of 56 documents. The total is greater than 100% due to the effect of co-authorship.

TABLE 13. Spanish/foreign collaboration found in the indexed journals (Ranking by Autonomous Community)

Autonomous Community	Documents Published*	Docs. international colabration**
Catalonia	76	22
Valencia	59	15
Andalusia	31	11
Madrid	58	11
Murcia	20	6
Aragon	30	2
Balearic Islands	4	2
Cantabria	8	1
Castile-La Mancha	2	1
Extremadura	3	1
Galicia	10	1
La Rioja	5	1

* Taking into account the effect of co-authorship.

** The total is over 56 due to co-authorship.

CONCLUSIONS

The various factors we have analyzed reveal to us the great extent to which Spanish Geography has been internationalized. The internationalization of publication boards is now an unquestioned fact and, with advisors coming from 20 different countries, it is easy to foresee a future in which this process will continue to strengthen the already exis-

ting ties with these countries while incorporating new contacts. Despite strong ties to Geography in France, overall ties with geography in Anglo-phone countries are at almost the same level, to the extent that the number of international advisors from the UK, US, and Anglo-phone Canada is almost equal to France. Therefore, Spanish Geography is open to the new influences of today's international geography.

The number of articles signed by foreign authors in Spanish journals has been growing, in particular in the last decade. But it should be noted that the difference observed in the journals as far as the degree of internationalization tends to converge: there is an increasing number of foreign articles in those journals which had started with low levels of internationalization while there is a certain stagnation or even descent in those journals more open to international influences at the beginning. Although this process of convergence may seem positive, it is in our opinion a step backwards on the part of the publications that were once more open towards foreign contributions.

Participation on the part of foreigners has meant widening the focus of those journals heretofore much too centered on the Spanish tradition and, more importantly, has brought to bear theoretical/methodological studies on the thematic and methodological renewal in Spanish Geography. In this regard, it should be pointed out that methodological, conceptual, environmental, and gender issues make up more than 50% of the total articles signed by foreign authors in Spanish journals.

The publication of Spanish geographers in foreign journals also indicates a high level of internationalization. Nevertheless, this presence is quite uneven. The preponderance of the geographers represented internationally is unquestionably from Catalonia and Madrid, although Valencia also plays an important role. Valencia's presence in international forums is even more notable when we take into account that it has fewer geographers than the aforementioned communities, and probably it is due to the relevant role that Physical Geography plays in this community.

The level of internationalization is now greater, as shown by the number of articles written in collaboration with foreign authors. Collaborative writing always implies closer and more stable contacts, which are frequently the result of years of collaborative efforts on the part of international research groups. Therefore, the growing importance of Catalonia and Valencia in this sense is worthwhile to note. In the same way, the importance of articles in international Physical Geography journals is notable, especially since Physical Geography and its practitioners play an increasingly minor role in Spanish Geography. The data we have analyzed permit us to affirm that, despite the fewer number of physical geographers, their level internationalization is greater than among those who study Human and Regional Geography.

Spanish participation on foreign journals' advisory boards is quite distinct from the participation of foreign geographers in Spanish journals. In the first case, the importance of the Anglo-phone world prevails, which is much to the contrary in the second case where French Geography is unquestionably and clearly predominant. This very asymmetrical situation echoes, then, a number of factors, one of which is probably the traditional weight of French Geography in Spain. The bonds and inter-relationships that have been forged over many decades are still significant, as is reflected by presence of French geographers on the advisory boards of Spanish journals. A second factor explaining this dichotomy may be the growing importance or intensity of bonds established by Spanish geographers with the most innovative Anglo-phone universities and Geography depart-

ments. The contacts and academic exchanges arranged over the years by the Erasmus and Socrates programs, international research groups, etcetera, and promoted by an initially small number of professors attentive to the Anglo-phone world, have resulted in the inclusion of Spanish geographers in Anglo-phone journals.

The presence of Spanish geographers in foreign journals is a response to more active dynamics and processes, inasmuch as they imply a previous knowledge, on the part of the executive and editorial boards of the journals, of the quality and scientific value of the work carried out by the Spaniards who are board members. Furthermore, this means that these Spanish geographers had previously participated in international forums. To the contrary, the presence of foreign geographers in Spanish journals does not necessarily imply the same sort of dynamism or joint research; often, the mere knowledge of a foreign geographer's work is the only pre-requisite for inviting him or her to join an advisory board. Therefore, the presence of Spanish geographers in foreign journals would respond to the most dynamic processes of Spanish geography's internationalization that are in part driven by the Anglo-phone world. Given the current situation, it would appear that this asymmetry might grow in the future, meaning an increase of the Spanish presence in Anglo-phone geography and vice versa. This is an asymmetry that we did not find in Latin American Geography, where there is very similar representation in both directions, especially in Mexico, Argentina, Brazil, and Chile.

In conclusion, Spanish Geography in recent decades has begun a process of opening its scientific output to the outside world. This process will probably be hastened in the near future due to the implacable process of globalization in which our society is immersed.

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V

PROFESSIONALIZATION IN
SPANISH GEOGRAPHY

GEOGRAPHY'S JOB PROFILES IN SPAIN

DAVID MONGIL
ÀLEX TARROJA

INTRODUCTION:

Geography is an age-old science, but as a profession it is both new and vibrant. Going beyond research and teaching, it has recently settled into a new professional reality in response to demands from government and private enterprise.

We have to remember that it was not until the 1990s (after the passage of Royal Decree 1447/1990) that the master degree in Geography was offered at various universities under the rubrics of History or History of Art, and began a gradual process whereby geographic expertise was combined with the public's demand for practical applications. Geography is now offered at twenty-seven Spanish universities, which enroll approximately 1,000 graduates annually.

Geography's consolidation in the universities is both a reflection of and a motivating factor for the revitalization of the profession in Spain. Therefore, we have witnessed in the last few years a progressive growth of our profession in the labor market, as well as growing acceptance of its technical expertise in fields as diverse as socio-economic development, environment, territorial planning and management, education, public affairs, and demography. In view of these circumstances, Act 16/1999 was passed on May 4, 1999 approving the College of Geographers, whose constitution was made effective on October 20, 2002.

Another point of reference for the paper at hand is the 1999 signing of the Bologna Declaration, by which the member states of the European Union took up the establishment of a European Higher Education Area in which university degrees reflect societal needs and demands, especially from the point of view of labor.

Therefore, it was the moment to respond effectively and rigorously to a very basic question: What do geographers do, and where do they work in Spain? The answer to this question must reflect and give evidence of Geography's consolidation as a profession at this time, showing the tremendous drive and sure course taken by the discipline during

these years. It should also demonstrate, in view of the current re-structuring of university degree programs, society's demand for territorial expertise, the worth of professional geographers, and the need for having a body of specialists in these areas.

Over the last few months, the College of Geographers has responded to the aforesaid question. The efforts we have made in this regard are based on the considerable information the College has gained from our members' answers to voluntary questionnaires. These questionnaires record geographers' professional background, as reflected by what they do and where they have exercised their profession. The relevant data presented here represents the 341 responses received by November 1, 2003. Keeping in mind that at the time there were 833 members, there was a response on the part of 40.9% of College members working for the government. This figure permits a close approximation of the job profiles for Geography found at the present time in Spain. In this respect, the current paper is concerned with two large issues:

- Geographers' job profiles: What do geographers do? This allows us to identify lines of work, job niches, and professional areas currently occupied by geographers.

- Workplaces: Where do geographers work? This allows measuring the relative worth of geographers' work in the government and private sector.

It is worth pointing out that this information is found in the White Book on Geography and Territorial Management degree program. This document constitutes a first step towards re-structuring the degree program to the directives of Bologna. It is therefore that Geography is one of the seventeen university degree programs that received assistance from the National Agency on Evaluation of Quality and Accreditation (ANECA) to prepare for this new framework. This proves the current good standing of the degree program and the glittering promise that opens before the discipline as well as the profession.

1. GEOGRAPHERS' JOB PROFILES.

When the College of Geographers presented the best means by which the job titles of geographers working for the Spanish state might be identified, it decided that current and detailed information on them should be provided by geographers informing us about their professional background. The formal result of these considerations has materialized in the form of a questionnaire that is provided to each geographer upon admission to the College.

The questionnaire asks members to identify their principal areas of activity (a maximum of three) from an ample sampling of the lines of work related to Geography. This is for the purpose of organizing and bringing together a variety of possible responses, as well as giving meaning to the wealth of information received and drawing up geographers' job profiles.

The varied and numerous lines of work (to be identified later) were not defined by chance, but through the reflections, knowledge, and experiences of the geographers who conducted the questionnaire, as well as in similar studies undertaken in specific regions, e.g. Catalonia (here the work of the Association of Professional Geographers of Catalonia was taken into consideration). In any event, it meant not only defining lines or areas of work, but first to verify the tangibility of these "intuitions", and later on the quantitative and qualitative substance of those areas.

The validity and success in defining the professional geographer's lines of work as established in the questionnaire is evident, in that each and every one of the 36 areas previously defined were considered as fundamental areas of work by more than 1.5% of the members. In the same way, among the answers identified as "others", it was decided that any that exceeded 0.5% of the total should be included as one of Geography's job profiles.

One of the principal objectives of the study was to define geographers' job profiles: that of establishing the great themes or pillars around which the polyvalence and diversity of our College's tasks may materialize.

The quantitative and qualitative analysis of the information allows us to affirm that the geographer of today is a professional specialized in "issues" whose value to society is progressively growing. Therefore, the 36 different lines of work found can be grouped into six larger groups that are perfectly identified and related to geographers' expertise and capabilities with regard to the earth's surface.

- *Geographical information technologies*
- *Environment*
- *Territorial and Urban Planning and Management*
- *Society of Knowledge*
- *Demography and Social Studies*
- *Regional Development*

The proportion or relative levels of employment of professional geographers for each one of the large areas grouped into the pie chart found below:



NOTE: The above percentages represent the proportion of the membership who identified their basic lines of work as among those found in one of the large areas of work represented here.

The principal conclusions that emerge from the chart above can be organized in the following fashion:

- The polyvalence of professional geographers is reaffirmed, inasmuch as that those who were surveyed have identified their principal lines of work as distinct blocs, unders-

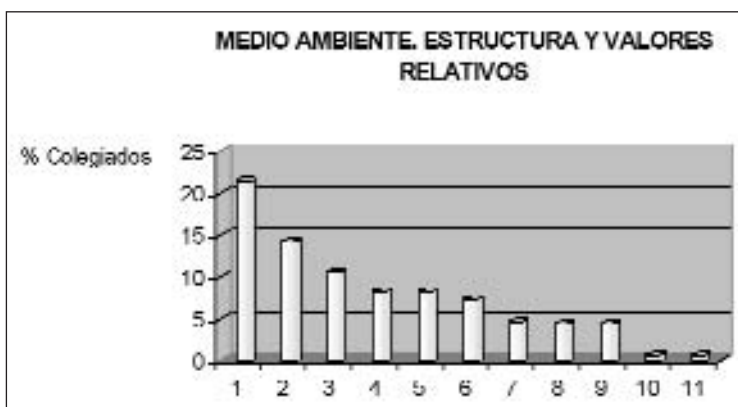
coring their adaptability and flexibility, as well as the evident practicality of undergraduate geographers' training in integrative knowledge and capabilities.

- Specializations in Geography are available in fields or job niches that are growing in demand, e.g. Geographical Information Technologies, Environment, Territorial Planning and Management, Knowledge Society, and Regional Development.

- Differing issues are arranged in relation to the reality of place, which provides a common focus for the whole, since Geography brings together knowledge and capabilities of territorial dimension in such a way that geographers' lines of work, e.g. analysis, management, planning, processing, educating, or disseminating information, have an evident basis in common: place or territory.

Nevertheless, a question emerges from the graph below: What are the lines of work that form each of the larger groups that have been defined? The graphs and tables below respond not only to this matter but also identify the levels of geographers' involvement in each:

• **Environment**¹:



Nº	Line of work	%
1	Environmental impact studies, surveys, and evaluations	21.4
2	Planning and management of natural areas	14.1
3	Local Agenda 21 and urban environmental surveys	10.6
4	Environmental education	8.2
5	Evaluation and design of sustainability strategies	8.2
6	Inventories of land use and natural resources	7.3
7	Technical Services in environmental quality systems	4.7
8	Emergency planning and risk prevention	4.4
9	Meteorology and climatology	4.4
10	Planning and Management of water resources	0.6
11	Research on Geomorphology	0.6

¹ We note that the percentages indicate the proportion of members who consider that their principal lines of work are included in one of the larger groupings. Designating one line of work does not exclude the rest, inasmuch as each member was permitted to designate as many as were preferred. We recommended that each member should designate the three where most of their work had been done.

The first field noted is "Environment", which comes because it is common to almost all professional geographers. Therefore, as we have already noted, 44.4% of those responding to the survey consider that one of the lines of work falling into this category as fundamental to their work.

Within this category are to be noted a great diversity of work. The greatest degrees of involvement are to be found in the "classic" lines of work in which a geographer may have a deep background as a specialist as in Environmental impact studies and evaluation or Methods for planning and management of natural areas, or in other fields where geographers' involvement has recently grown and consolidated, such as in Local Agenda 21 issues, Environmental Education, and Sustainability Strategies.

Therefore, Geography figures among the disciplines introducing the methodology of Environmental studies and evaluation to Spain. Thus, it is involved not only in comparative studies of project alternatives and corrective actions, but also on the possible impacts on environment and landscape brought on by infrastructure projects (primarily transport), extractive industries or urban development.

With reference to Methods for planning and management of natural areas, it should be noted that these are involved throughout their management cycle: setting territorial demarcations, review of special protection plans, promotion of environmentally compatible socio-economic development, urban planning, and development of educational activities and recreation. Apart from those spaces under special protection, geographers are also actively involved in management of reserved non-urban areas, natural resource protection, landscape intervention, and study of biological links between protected natural areas.

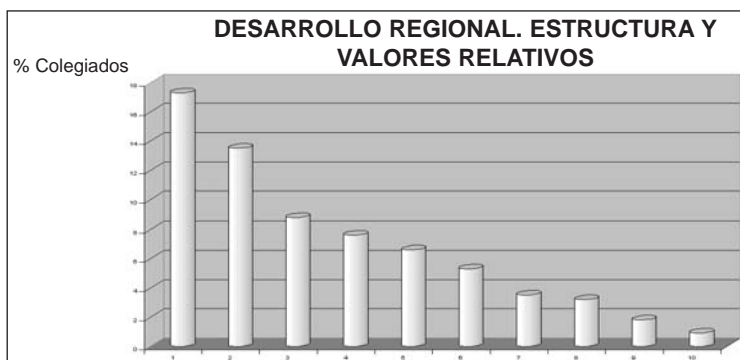
Since they are by tradition aware of the relationship between cities and the environment, geographers also participate in Local Agenda 21 activity, which constitutes a strategic planning instrument for putting into place models for sustainable development in a territory. Therefore, geographers are carrying out compatibility and optimization projects with environmental, economic, and social variables that reconcile the conservation of natural resources with improvements in the human standard of living. Likewise, they shape participative processes in which society as a whole, through its individual citizens and organized groups, may define a model of sustainable growth for cities.

Our collective also carries on its profession in the areas of environmental training and education. It is therefore that geographers are involved in Environmental Education, in nature workshops, educational activities, teaching exhibitions, or in the development of environmental education resources.

Under continued development by society in general, and professional geographers in particular, is the field of Design of sustainability strategies, in the certainty that societies and territories can develop and put into effect their own revitalization strategies without harming the environment while improving their inhabitants' standard of living. In the same way, geographers are taking on different jobs and tasks of studying and controlling these strategies, offering oversight in part to periodically evaluate these activities. On the other hand, they also look into setting standards for these strategies.

The field of work on environmental issues is made complete by the diverse types of work that range from instruments for planning (water resources and natural risks), the world of universities and research (Geomorphology, Climatology, and Meteorology), to systems of environmental management and soil surveys.

· Regional Development ²:



Nº	Line of work	%
1	Strategic local and regional planning	17.3
2	Urban and metropolitan studies: Urban policy	13.5
3	Management and evaluation of tourism development policies	9.1
4	Managing local social and economic development	8.8
5	Location studies: placement and impact of economic activities	7.6
6	Geo-marketing:	3.5
7	Territorial demarcations	3.2
8	Cooperation and solidarity: Geographers without borders	1.8
9	Study, Inventory, and Management of cultural resources	0.9

Forty one percent of the members responding to the questionnaire identified their basic lines of work among those found in the graph designated above as Regional Development.

Both the important role and relative weight of this field fall under planning issues, not so identified with an instrumental network of a more physical nature but instead with activities that are in many cases more theoretical and econometric in nature, as is Strategic local and regional planning, both territorial and sectorial in nature. These plans, which are intended to establish strategies for the future of cities and regions, place special importance on: 1) the interrelationship between the various social, economic, and environmental dynamics in specific places; 2) identifying the potentialities for cities according to their context and location; 3) and the relationship between locations and how they complement or compete with each other. These are three keys to the science of Geography; all graduates in Geography have received training that enables them to participate decisively in these projects. Also, geographers have a vocation that is both prospective (future scenarios) and pro-active (oriented towards active involvement) with respect to territorial issues, and also have a global perspective on urban and regional problems.

² We note that the percentages indicate the proportion of members who consider that their principal lines of work are included in one of the larger groupings. Designating one line of work does not exclude the rest, inasmuch as each member was permitted to designate as many as were preferred. We recommended that each member should designate three where most of their work had been done.

Together with strategic planning, we found a number of lines of work that are characterized, in broad strokes, by their specific relationship to socio-economic practice and management, both territorially and sectorially. On this basis we found lines of work such as: Urban and Metropolitan studies, Urban policies, Management and evaluation of Tourism development policies, Local social and economic development, Location studies: placement and impact of activities.

Urban and Metropolitan studies and urban policy design (not only those oriented towards policy planning but also urban planning, management, and service provision) constitute an area for analysis and proposals that covers, among others, the problems specific to large cities, e.g.: urban sprawl, unchecked metropolitan growth, urban transformation, infrastructure, revitalization of historic downtowns, mobility, new centralities, industrial and tertiary activity, and social and personal services.

An area that has shown a progressive increase in geographers' involvement is in the different phases of Territorial Tourism development policy. They are undertaking efforts, principally, to put the directives into place that stem from these policies, as well as coordinating among and advising the various public and private officials with authority in the territories to carry out tourism development strategies. At the same time, they are part of teams that follow up, control, and evaluate the practical results that these efforts have manifested at various scales.

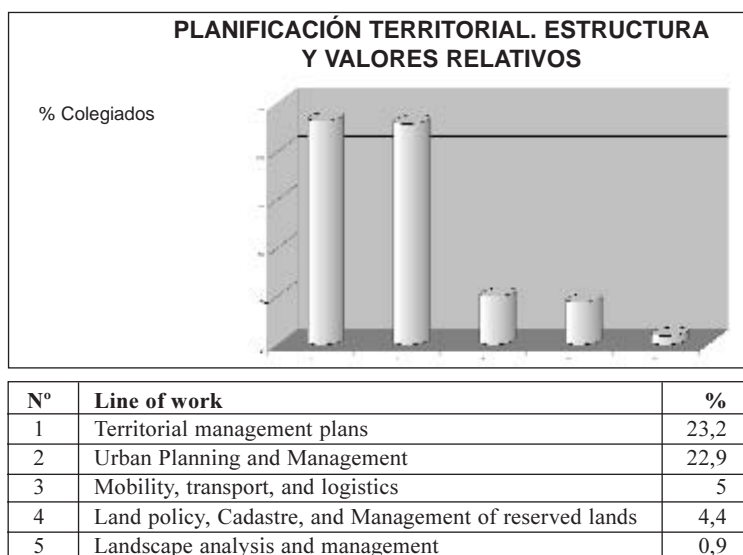
Geographers' involvement also extends to Managing local social and economic development. Thus, geographers do professional work in institutes and services for promoting local economies, economic cooperation programs, economic and social observation programs, and other socio-economic information systems (labor market, economics and quality of life). Especially notable is their involvement as agents of local development and in programs of social and economic action for disadvantaged areas such as mountain regions and depressed industrial zones. Among the tasks undertaken are: identifying development possibilities and comparing the relative advantages of places; investing economic resources (European funds, subsidies); motivating social agencies (concerted efforts, agreements, consortia); and managing public resources applied to concrete actions, and subsequent evaluation of results.

The evolution of the territorial model, as well as the incorporation of new forms of activities in the productive sectors and new patterns in the service sector, made necessary Location Studies: placement and impact of economic activities - that seeks non-traditional locations. In order to propose locations, it is necessary to create models that incorporate variables such as current information (which is always changing) concerning availability, real property values and uses, labor market, and connections to the new information networks. Planning for industry, tourism, and commerce, cannot be done without taking the environment into consideration, foreseeing social impact and territorial imbalances that are generated by the polarization of economic activity. Therefore, geographers contribute to a new reading of territory with a view towards revitalizing its resources and emboldening development initiatives that are adapted to varied territorial

and social realities.

Territorial Planning: This is a field that groups together a varied number of lines of work in which the number of geographers involved is not large, they are significant since it is they who verify the qualification and effectiveness of the completion of its functions. The relatively low number of geographers involved may be due to Geography's recent admission to a relatively small field. Among the lines of work here are: Geo-marketing, Territorial demarcations, Development aid, and Managing cultural resources.

• **Territorial Planning**³:



Even though there are "only" five noted above, 34.9% of the geographers responding to the questionnaire identified themselves with the basic lines of work found in Territorial Planning.

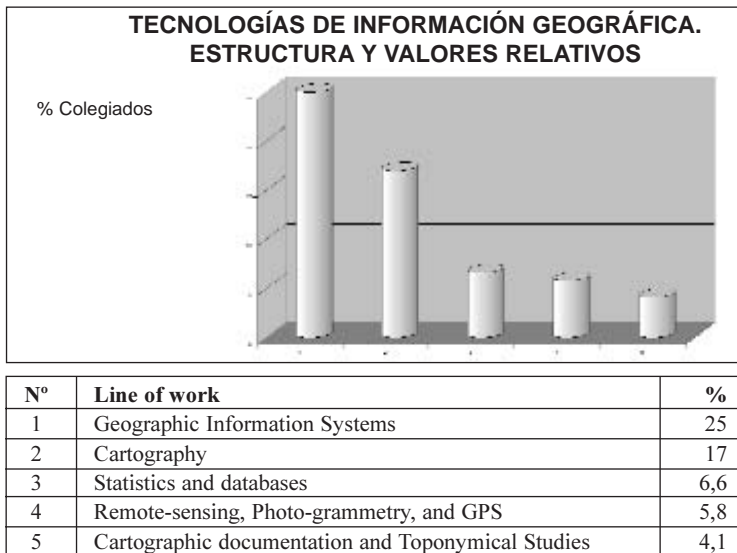
Territorial management plans and Urban Planning and Management are important for their similarity. Both have emerged over the last five years or so among the most recognized and well-positioned job niches for geographers.

As specialists on the earth's surface, our collective has been continually involved in Territorial Management, as well as urban, metropolitan, district, and regional studies, which give rise to reactions to various territorial management plans and programs developed by government at different scales. Traditionally, this contribution has been a determining factor in analyzing, diagnosing, and forecasting social, economic, and natural changes in a territory. Nevertheless, this involvement is becoming more frequent in the forecasting segment of planning and quite common in formulating guidelines for intervention, future steps, managing measures taken, and in evaluating and following-up the accomplishment and effectiveness of these plans.

³ We remind that the percentages indicate the proportion of members who consider that their principal lines of work are included in one of the larger groupings. Designating one line of work does not exclude the rest, inasmuch as each member was permitted to designate as many as were preferred. We recommended that each member should designate three where most of their work had been done.

Geographers also commonly participate in Urban Planning and Management as members of inter-disciplinary teams in conjunction with architects, legal experts, engineers, and other professionals. Until very recently, the projects in which they were most frequently involved were in the area of reviewing general plans for urban management. Among these, it is common to participate in the formulation and drafting of reports on the advance phase, in addition to studies on socio-economic issues, mobility and integration with surrounding areas, green spaces, residential developments, residential parks, industry, as well as instrumental work in information, cartography, GIS, etc. They also collaborate on teams reviewing management proposals. Geographers have become progressively more involved otherwise in urban management, especially in reviewing plans for protected undeveloped open spaces, special plans for urban renewal (social issues, especially), and programs for land re-apportionment and urbanization (determining compensations, concessions, etc). With them we find two increasingly important lines of work: Mobility, Transport and Logistics, and Landscape Analysis and Management. The latter appears by virtue of its repeated appearance under the heading of Others; given that it had not been previously defined; one can suppose that its relative values would have been much higher had it been among those issues brought up by the questionnaire.

· Geographical Information Technology ⁴:



One of Geography's primary areas of work is Geographical Information Technology, identified by 34.6% of the members surveyed as one of their principal lines of work. In

⁴ We remind that the percentages indicate the proportion of members who consider that their principal lines of work are included in one of the larger groupings. Designating one line of work does not exclude the rest, inasmuch as each member was permitted to designate as many as were preferred. We recommended that each member should designate three where most of their work had been done.

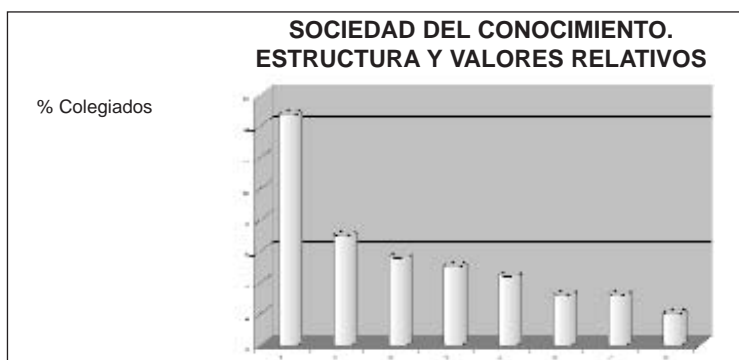
the last decade, to Geography's traditional involvement in cartography must be added the growing field of Geographical Information Systems (GIS) - a product of the generalized use of applied tools in the determination, management, and analysis of geographical information.

Geographical information systems (GIS) is a panoply of integrated information tools designed for storing, manipulating, maintaining, analyzing, and presenting information of any spatial expression. GIS integrates alpha-numeric databases with imaging of the earth's surface (digital cartography). In the last few years, the use of GIS tools has become indispensable in very diverse professional fields, e.g. cadastre management, urban and regional planning, management of natural areas, infrastructure management, in analysis, management, and research efforts by government agencies as well as by public utilities, consultants, and technical assistants. Thus, geographers are involved not only in technology design (R+D), but also in the applications to final projects. In the field of applied research, geographers work in forecasting, design, and development of commercial software and personalized applications in specific projects in research laboratories as well as private enterprise.

Modern cartography and its methods have little to do with those of a few decades ago. The use of photogrammetric technologies and remote-sensing, the development of geographical databases for handling large volumes of information, and the use of advanced information technology, have totally transformed the process of cartography. Involvement is extensive throughout all sectors of Cartography, from the complex process of producing detailed digital mapping bases (topographic, cadastre) to the presentation and visualization of statistical data (with a significant graphic semiological component), to commercial cartography and publishing (atlases, tourist and road maps) and specialty thematic mapping (soil use, geology, etc.).

In addition to these headings, geographers also find a market niches in such sectors as: Statistics and databases, Remote-sensing, photogrammetry and GPS, and Cartographic documentation and Toponymical studies, although these fields are relatively small in comparison to the previous fields.

• Knowledge Society ⁵:



Nº	Line of work	%
1	Education: University teaching	14,7
2	Publishing: editorial work	7
3	Education: Continuing education and informal teaching	5,6
4	Education: Secondary-level	5
5	Publishing: Tourist guides	4,4
6	Publishing: Internet and new multi-media Technologies	3,2
7	Education: Nature and cultural guides	3,2
8	Publishing: promotion of tourism products	2

Under this general heading are grouped a variety of lines of work that represent 30.8% of geographers' professional occupations, which are represented by: Education and Publishing.

The teaching of Geography has been historically the principal job of geographers. Nevertheless, the growth shown by applied Geography, together with the decrease in the number of teaching positions, have diminished teaching's relative weight among geographers' jobs, even though it is well represented under the headings of Education: University teaching, and Education: Secondary-level.

Thus, there are a great number of geographers who are in government university faculties and form part of the teaching staff of the various universities in the country. In addition to teaching, geographers' research adds new knowledge to the various fields of Geography, while they pass this knowledge and technology on to society as a whole, whether through training programs or projects in cooperation with government and private enterprise.

Education outside of academia and publishing are both growing fields for professional geographers in the private sector, as can be observed in the percentage of professionals engaged in publishing in various forms: Editing, Tourist guides, Multi-media, Nature and cultural guides, and tourism promotion.

· Demography and Social Studies ⁶:



⁵ We remind that the percentages indicate the proportion of members who consider that their principal lines of work are included in one of the larger groupings. Designating one line of work does not exclude the rest, inasmuch as each member was permitted to designate as many as were preferred. We recommended that each member should designate three where most of their work had been done.

⁶ Recordamos nuevamente que los porcentajes indican la proporción de colegiados que consideran como líneas de trabajo fundamentales alguna de las incluidas en cada uno de los grandes campos de trabajo. La señalización de una línea no excluye el de las restantes, toda vez que cada colegiado podía signar todas aquellas líneas que considerase oportuno (recomendándosele, eso sí, que señalizara las tres en que considerase que más había trabajado).

Nº	Line of work	%
1	Demography and Population studies	9.8
2	Public services and policy Programming/managing/evaluation	5.3
3	Gender studies	0.6

A field of work that had been formerly small in comparison to the rest is Demography and Social Studies: an area where 13.2% of the geographers surveyed now work.

Nevertheless, there is no doubt that the lines of work contained have characteristics and a specific nature that allows them to be considered as a field of work of their own in which efforts in Demography and Social Work are conducted by the geographers surveyed.

Thus, Demography and Social Studies are among the traditional fields of action for geographers. Forecasts, prospective analysis, or studies into structure and evolution occupy a good number of professionals, while their presence is significant in university research facilities as in government. In addition, work in planning within various areas generates specific demands for demographic analysis of certain territories: migration studies, dynamics of settlement, living conditions and life ways, seasonal population, problems specific to certain social groups, income levels, social cohesion and integration, gender, etc.

2. GEOGRAPHERS' WORK PLACES

The process of identifying the principal places of work for professional geographers has been carried out on the basis of the same methodological focus used with regard to identifying job profiles. Regarding the questions contained in the questionnaire that referred to work places, 260 members responded - 31.2% of the membership as of November 1, 2003. The results of the survey into geographers' places of work are represented in the graph below:



Following are the principal conclusions that can be derived from the graph above:

- 37.7% of those responding said that they exercise their profession within a university framework, whether as professors or as fellows; in many cases they combine their teaching, research, and professional roles (if in this case we recognize as such the carrying out of activities at the service of both public and private agencies).

- 30% of those responding said they conduct their professional work at different scales or levels of Government, as technical specialists or officeholders.

- 32.2% of those responding work in the private sector, whether in associations (as members, salaried professionals, or both) or as freelance professionals.

The relative importance of the number government geographers represented in the world of the university may be surprising. However, there are some factors that may help us to understand this phenomenon.

On one hand, this situation allows an understanding of the important efforts by university geographers in work that is not teaching or research, in the strict sense. Therefore, they are a corps of professionals that utilizes the skills and knowledge gained in their teaching or research, and puts them to use for various "territorial products" (understood as the different lines of professional geographic work covered earlier in this paper). It is a cadre of professionals that does not stand pat in academia, but is open to society's needs and demands and can compete for jobs in a market crowded by private agencies.

On the other hand, the current "university" presence within the College of Geographers is closely related to the creation of the College (barely two years ago), since all of the geography departments at state-run universities not only spurred the creation of the College but also contributed to its consolidation through the admission of many members. This again shows the involvement, cooperation, and inter-relationship of the science of Geography with the practice of the profession that is in the service of society at large.

Finally, it should be pointed out that the relative weight represented by academia among colleagues in Geography will probably be progressively diminished over time. This is because on one hand, the number of university professionals is small and will not soon be increased, while on the other because the rate of members joining from government and the private sectors is increasing and progressively surpassing the academics that were so important in the creation of the College.

The private sector, the world of business or the free and autonomous exercise of geographer's work, is an important segment among geographers in Spain and represents almost a third of those who answered the questionnaire. These levels demonstrate the progressive integration of a relatively new profession (with the Geography degree only recently separated from History) into the complex world of private enterprise. Without a doubt, the maturity of a profession resides to a great degree in the demand emanating from economic activities in the private-sector; geographers as professionals are no strangers to this trend. In principle, it may be understood that the proportion of geographers in the private sector should be greater, but we must recognize that a good number of the lines of work and the services rendered by professional geographers are of a "public" or "quasi-public" nature: that is to say that they provide services to the whole of society through the government. Therefore, despite the increasing privatization of public services, it is understandable that a good number of professional geographers continue to do the same sort of work within government.

Nevertheless, it is likely that the relative weight of private-sector professional geo-

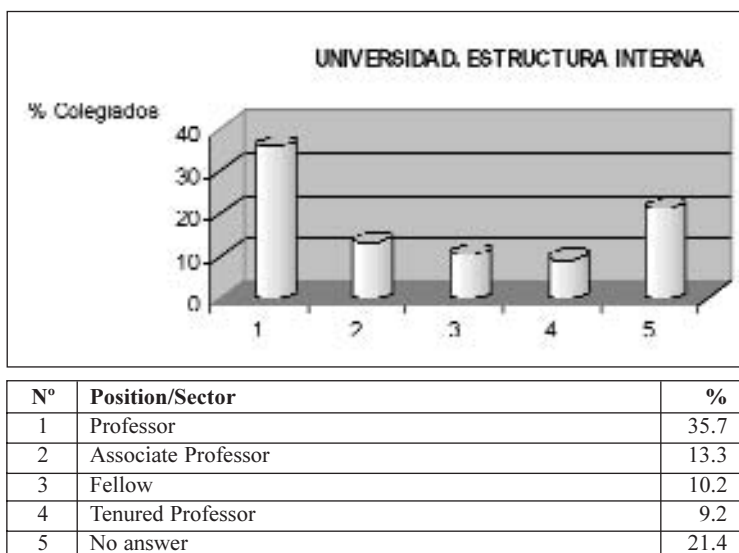
graphers will increase, so long as public institutions continue the process of out-sourcing services (those of a territorial character, among them), and private individuals (employers as well as end-users) continue to demand greater territorial knowledge and capabilities.

Regarding the high percentage of members working in Government (which is approximately 30% of the total), a number of factors can be pointed out that explain this situation. In part, there is a significant group of geographers doing technical work in the different segments or levels of government, inasmuch (as said before) as a number of professional geographers' lines of work are products or services for the public - understood as those that are contracted or requested by the public sector for improving the quality of life or satisfying the needs of society as a whole.

Therefore, even while we are witnessing the out-sourcing of a good number of these tasks to the private sector through contracts or agreements with the public sector, there is no doubt that employment within the public sector will continue to exist. However, the presence of experts on territorial issues in the public sector is necessary: experts who can coordinate and oversee feasibility and efficiency of services on territorial matters that are contracted by the private sector, so that they conform to the characteristics and goals for which they were defined and placed into action.

Finally, and going down in the analytical scale, we mention the internal structure of the different blocs we have identified as professional geographers' "Places of Work", inasmuch as from this can be taken information that will permit an understanding of current professional reality for geographers in Spain.

• Universities:

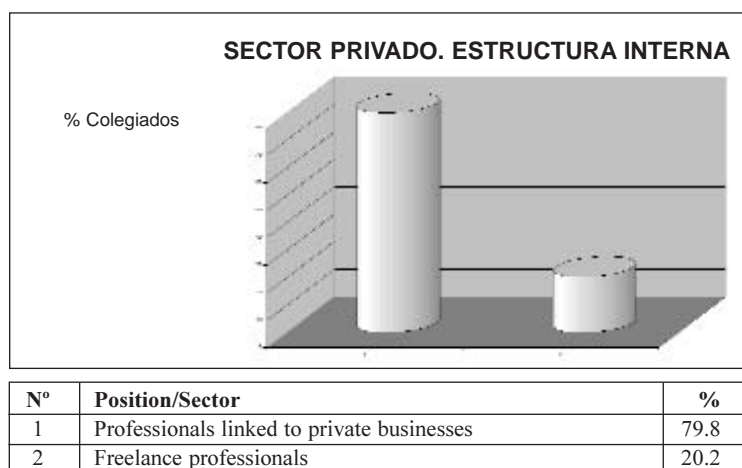


The above graph shows us quite clearly how the entire segment, or the various levels and types of academic professionals, are involved in Geography in Spain. Therefore, the

relative values for each one of the groups is of no great significance, inasmuch as it is logical the greatest number (35.7%) is represented by "Professors" who are the majority of the workers in academia. Nevertheless, we find that Tenured Professors are well represented at 9.2%, and in levels that are relatively higher than the quantitative weight that they represent on the whole of university professionals - which reflects the strategic support that academia gives to geographers and also their commitment as renowned professional geographers.

In the same way, there exist a significant group of geographers working on university scholarships (10.2% of survey respondents), mostly in university projects, or sometimes in conjunction with private or public agencies. Also, there are an important number of geographers (21.4%) who did not specify in which area of university life they exercised their profession.

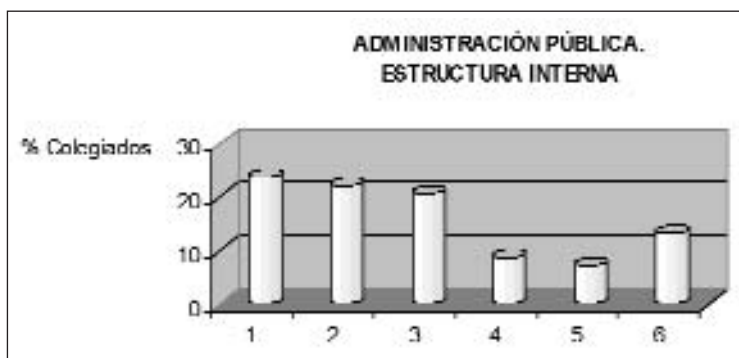
• Private Sector:



With regard to the internal structure of geographers' work places in the private sector, it was decided to differentiate only between: those working in private businesses, and freelance professionals. This differentiation came about in part because the questionnaire did not ask whether members work in multi-nationals, businesses, small and medium-sized businesses, while it was also in part due to the certainty that the great majority of geographers in businesses work in small to medium-sized firms.

Therefore, the most notable fact to be noted in the above graph is that at the present time, based on the response received, a fifth of the geographers (20.2%) work in the private sector in modern working arrangements (freelance, telecommuting, etc.) in which they pass from public/private work to private work categories in order to provide specific services or products in Geography

• **Government:**



Nº	Position/Sector	%
1	Regional government	23.5
2	Autonomous Community government	22
3	Local government	20.6
4	Research Centers, Foundations	8.8
5	Institutes for Secondary-level Education	7.3
6	Others	13.2

With regard to the internal structure of the levels of employment with government, it is notable how high are the levels for the territorial and non-territorial jurisdictions represented by each one of the administrative scales, showing that geographers' employment levels in Regional government (23.5%), Autonomous community government (22%), and local government (20.6%) are quite similar. Otherwise, the high percentage of members working in various Research Centers and Foundations is notable, as is also the number of professors working in Institutes for Secondary-level Education. Finally, there is the high qualitative value under the rubric of Others, which brings together diverse and heterogeneous places of work impossible to group under the other categories and is of a size insufficient to constitute their own category.

CONCLUSIONS:

This paper has demonstrated that Geography in Spain is in good health and that it has earned a place on the labor market. This is based not only on geographers' know-how, but also because it specialized in areas of increasing demand: environment, territorial management and planning, geographical information technology, and socio-economic development.

Territory (i.e. the earth's surface) is a constant focus of media attention. It is at the heart of problems such as conflicts over natural resources and landscape transformation, natural disasters, immigration, cultural diversity, globalization of the economy, urban transformation, transportation infrastructure, housing, natural parks, tourism, and development of rural areas. It is obvious that in all of these issues that knowledge of territorial relationships is indispensable for understanding them and proposing new solutions

towards achieving environmental sustainability and social justice. Society's demand for knowledge, interpretation, and policy towards the earth's surface situates Geography at the very heart of current events. Geography in effect, in a complex world where science has become specialized and fragmented, Geography offers a global vision, a keystone to society's major problems, with a singular capacity for integrating multiple social, economic, and environmental factors on the earth's surface.

In sum, geographers of today are pioneers in the culture of environmental and social sustainability, who integrate socio-economic challenges and transformations of our cities, regions, and countryside. They are professionals, combining scientific knowledge with technical training in direct contact with the earth's surface and fellow citizens, who are called to transform reality.

GEOGRAPHY AND SOCIETY IN SPAIN: ITS PRESENCE (AND ITS ABSENCE)

PEDRO REQUES VELASCO

1. INTRODUCTION

Geography has experienced in Spain a boom and a clear transformation in the last three decades, as a result both of its own scientific development and of the diffusion of recent IT technologies that are promoting a more scientific, technical and professionalization-oriented university formation. All these changes got accelerated in 1990s, when Geography consolidated itself as a concrete and specific university degree ¹.

Historically, Geography, a millenary science, has played a relevant role as a discipline that collects knowledge on territory, on environment-human beings relations, etc... The new professional geographers are taking advantage of such a fruitful and long career and, standing on and making use of present technological possibilities (Internet, Geographical Information Systems, digital cartography, *on line* statistical data, remote sensing...), are playing an increasingly more relevant role in the development of the so-called *information and knowledge* society. Thus, Geography contributes –and will continue in the future– to avoid the risk that society turns this information and knowledge into a *society with more information than knowledge*, with more technical answers than questions, with more means than goals, with more simple descriptions and data collection than strict causal analysis of land problems.

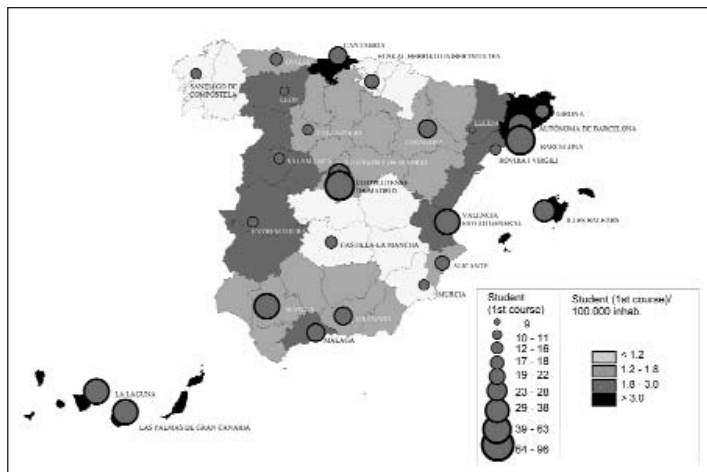
¹ Change that had already taken place some decades earlier in other European countries such as Germany (J. Gómez Mendoza (1994): "Caminos recorridos por la geografía alemana desde 1950", *Ería*, nº 33, pp. 73-76); United Kingdom (A. R. Townsend (2001): "Diversificación de salidas profesionales para geógrafos y geógrafas en el Reino Unido", *Documents d' Analisi Geogràfica*, nº 39, pp. 57-74); France (C. Broggio, C. y M. Philipponneau (2001): "La geografía profesional en Francia: del geógrafo universitario al geógrafo profesional" *Documents d' Analisi Geogràfica*, nº 39, pp. 97-117); Belgium (Kesteloot, C.; Thomas, I. y Turck, A. (2001): "La estructura ocupacional de los geógrafos y geógrafas y el currículo de geografía: algunos elementos del caso belga", *Documents d' Analisi Geogràfica*, nº 39, pp. 133-149) or in the United States (J. Munk (2001): "Continuidades, cambios y retos de la geografía contemporánea en Estados Unidos", *Documents d' Analisi Geogràfica*, nº 39, pp.75-96).

After briefly studying Geography's development and its implementation as an university discipline and the professionalization of geographers ², this paper's main object is: to assess Geography's presence –and to point out its absence- in Society; that is, to get to know how "it is" and how "it ought to be", its reality and its potential, the awareness and the scarce recognition that private enterprises, public administration and society have of Geography. In short, as Ortega Valcárcel points out, Geography "delves from the conditioning of its past to its future possibilities" ³.

2. RECENT DEVELOPMENT OF ACADEMIC AND PROFESSIONAL GEOGRAPHY

In just a generation, Spanish Geography has experienced more changes than in all its century-long history. In the last decade, Geography degree holders ⁴ have increased exponentially; the demand presents an unequal expansion from the point of view of land implementation (Map 1) and a tendency to stagnation –or decreasing trend- due to what some colleagues have defined as a "growth crisis" and, also, to Spanish demographic dynamics ⁵.

Fig. 1: An unequal demand of university Geography studies in Spain. Newcomers registered in the Geography Degree (median of years 2001-2002 to 2003-2004). Source: Spanish Geography Departments. Author's making.



² As shown by the creation of the Colegio Profesional de Geógrafos (Geographers Professional Association) in 1999.

³ In his work *Los horizontes de la geografía. Teoría de la geografía*, Barcelona, Ariel, p. 555. A reflection that is fundamental for the epistemological de-construction and the historical re-construction of our discipline, its discourse and its practice.

⁴ There are 26 Universities that award the Degree in Geography, but geography professors are teaching in 44 university departments.

⁵ It translates into a decrease of almost 30 % in university students' cohorts for the last ten years. The cohort of 18-year-olds has evolved as follows: 700,732 demographic effective in 1992; 707,705 in 1993; 707,800 in 1994; 688,984 in 1995; 671,637 in 1996; 635,818 in 1997; 610,932 in 1998; 577,312 in 1999; 542,402 in 2000 and 513,427 in 2001. The evolution of newcomers students is as follows: year 1994-1995: 308,502 registrations; year 1997-1998: 278,848; year 2000-2001: 244,386; year 2001-2002: 245,152. Thus, since 1994, registration has fell almost 20 %. For the Geography Degree, the evolution is as follows: Year 2001-2002: 900 newcomers; year 2002-2003: 849; year 2003-2004: 844; it has just decreased 6 % in the last three years.

Two stages can be distinguished in the last thirty years. The first stage starts in the early 1970s –in 1973- when the old Filosofía y Letras (Philosophy & Humanities) Schools began to impart the Geography and History Degree. Consequently, Geography –hand in hand with History- separated academically from Humanities ⁶. The first Geography and History ⁷ degree-holders graduated in late 1970s from most Spanish universities; most part of present university teaching staff graduated within these classes.

Twenty years later, in early 1990s, a second academic change took place that was really relevant for our discipline: the creation of a specific Geography Degree ⁸. Its separation from the History Degree is clear; they only share administrative situation and there are very few bridges between them ⁹.

The third and most significant change is taking place at this moment –and will increasingly enhance its relevance in the future until 2010, the deadline year- as a result from the insertion of Geography in the so-called European Space for Higher Education. The new normative framework is to give our discipline a supranational character and is to print on it a mark of "employmentability", which means, in fact, a change in approach: our discipline is consolidated both as an applied science and a basic science ¹⁰.

Among several inside factors, the fundamental one has derived from those people who defend that Geography can only develop from a solid integrating core, against those people who think that sub-disciplinary specialisation is a *sine qua non* condition to make it competitive before other social and natural sciences and any other technical disciplines. In the last decades it has been proved that to grow "inwards" or to grow "outwards", to look for the common identity or to keep it specialised, to progress around the sub-disciplinary edges of our science or to strengthen and centre it from its cross-road situation are not contradictory but complementary and compatible positions.

Geography, in our opinion, stands on four pillars: its relationship with social sciences, its relations with natural sciences, its century-long humanistic tradition, and its relations with new technologies such as IT, Statistics, Cartography, GIS, remote sensing, etc. This fact is an advantage for Spanish Geography but it is also its *Achilles' heel*.

It is an advantage because it sets Geography at the previously mentioned cross-roads and makes it a special and unique discipline, while geographers are able to understand ¹¹ and play a relevant role in inter- and multidisciplinary studies. It is our weakness because the technical and scientific level of those disciplines practitioners is much higher than the geographer's and that makes us not so competitive. The popu-

⁶ From the old Philosophy and Humanities Degree, where there was only four annual Geography subjects with 120 class hours each (an equivalent to present 12 credits).

⁷ Depending on the universities, there were around 13 to 16 annual Geography subjects.

⁸ The number of credit-assessed four-month subject matters amount to fifty and they are equivalent to 6 credits or 60 class hours.

⁹ Only through free choice subject matters, and not always.

¹⁰ A role that Geography has always and will continue playing.

¹¹ We are even, in some cases, taken to be experts in those matters.

lation geographer, the geomorphologist, the biogeographer, the urban geographer... have technical-methodological tools and specific scientific knowledge that are not so advanced or developed as those of the sociologist, the geologist, the ecologist, the town planner... in their respective fields; however, any population geographer, geomorphologist, biogeographer, urban geographer... is specially skilled, qualified and sensitised to understand territory and its key factors, to analyse any relationships between elements of different nature, to describe and explain space from their own global and integrating point of view: the geographic, territorial, spatial point of view ¹².

In this sense, we think that the debate between generalist geographers and specialised geographers is unfounded: in Spain, Geography is made from the discipline core and Geography is made from the sub-disciplinary edges; Geography is made from the "science as a continent" point of view or from the "science as an archipelago" point of view; Geography is made from geography and it is and will be made every time we actively participate in more and more multi-disciplinary studies.

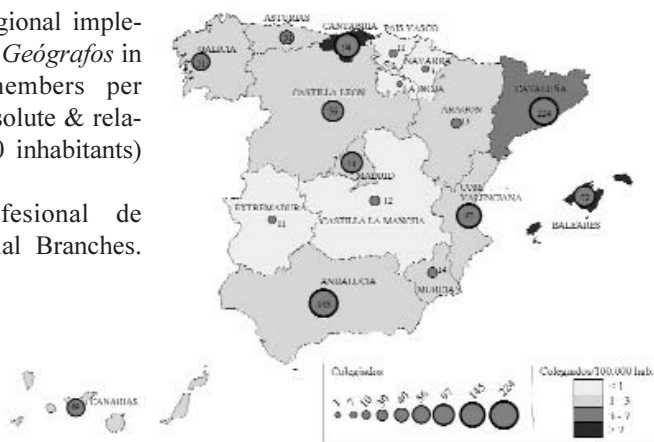
Any way, the Spanish geographer's role is changing substantially: the teaching geographer is giving way, also, to the professional geographer. The old and deserving university professors and the old and praiseworthy university schools are replaced by very competitive and active research groups involved in their respective regional realities. Geography considered an academic discipline exclusively devoted to train geography teachers for secondary and higher education is little by little turning into an applied science ¹³. The creation of the *Colegio Profesional de Geógrafos* and its –however unequal– implementation on each autonomous community (Map 2) is the best evidence of this change.

¹² Territory and space –that are not synonymous concepts– are not, however, the subject matter of just one science. Other social (Economics, basically) and natural (Biology, Geology, Ecology...) sciences take them into consideration, analyse them, deal with them. However, thanks to its generalist tradition and to its integrating character, it is Geography the only discipline that best answers to territory and space problems. As L. Azuela, J. Campos and F. Fernández (2003) point out in their article "La Geografía, como ciencia integradora. Dieciocho siglos de interdisciplina". México, UNAM ("the space, it gives soundness, wealth and unity to geographical analysis, a space felt in local or global scales, a space that is studied in the past or in the present day, a tangible and measurable space or a theoretical and abstract space". Space, as J. Estébanez (1995) said: "Globalización, espacio y geografía". Polígonos, Revista de Geografía, no. 5, "shapes in historical memory; it is the meeting point for past and future through today's social-economical relations").

¹³ There have been several name proposals for applied geography (a concept created by the North-American geographer J. Heberston, in 1890, and made popular by the British scholar D. Stamp, in 1940s). Pierre George supplies the concept of "active geography", Jean Labasse that of "voluntary geography", Armand Fremont that of "concerned geography", Denis Retaillé that of "city geography". Vid. M. Phlipponneau (1999): *La géographie appliquée*. Spanish translation (2001), Barcelona, Ariel, p. 27.

Map 2: The unequal regional implementation of *Colegio de Geógrafos* in Spain. Number of members per Territorial Branches (absolute & relative values, per 100,000 inhabitants) in 2004.

Source: Colegio Profesional de Geógrafos and Territorial Branches.
Author's making.



In the last decades, Geography has clearly developed both in the field of the scientific production¹⁴ and in the labour market with the incorporation of Spanish geographers to private enterprises and the public administration at every level (municipality, autonomous community and state).

However, in spite of such a large transformation –with some inner tensions–, the discipline has very little social projection.

3. GEOGRAPHY'S APPLICATION AREAS: TERRITORY, TO THE FOREGROUND

The debate between pure science and applied science, between basic research and applied research is unfounded too. Both of them feedback each other and are unthinkable one without the other and, especially the latter without the former.

¹⁴ A clear evidence of this is the existence of around thirty well-known Geographic scientific journals, most of which are not known abroad, an unfair situation due, undoubtedly, to extra-academic factors (such as being written in Spanish and not in English, the lingua franca in the international scientific world) and to internal factors, summed up by J. Muñoz in the work "Volumen y estructura de la investigación geográfica en la Universidad española" published in 2001 in a report of the AGE as the following features: "isolation, atomization, conceptual dispersion and lack of definition, weak methodological cohesion, water-tightness, lack of research programs and of consolidated groups, and journal proliferation". In short, as Josefina Gómez Mendoza (2001) points out in "La geografía española. Final y principio de capítulo" Actas del XVII Congreso de Geógrafos Españoles, Oviedo, 2001 "too much production and too little diffusion". Another proof of the scientific production in our discipline is the eighteen national congresses and the numerous meetings hold by the fourteen working groups of *Asociación de Geógrafos Españoles* (AGE) (Spanish Geographers Association). AGE's present working groups are: Climatology, Didactics of Geography, Regional Studies, Geography of Latin America, Physical Geography, Economic Geography, Population Geography, Rural Geography, Services Geography, Geography of Tourism, Leisure and Recreation, Urban Geography, Quantitative Methods, GIS and Remote Sensing, and the just-created groups on History of Geographic Thought and Local Development. At the same time, geographic monographs and bibliographic production have experienced an exponential increase in the last 20 years. Doctorate thesis, research reports, applied papers, planning models, textbooks are the basis and explain the recent geographical scientific boom.

With every new day geographic information gets a more and more strategic meaning, a larger economic value ¹⁵ and social relevance, both in the area of the public administration and the private enterprise ¹⁶.

In the *Libro Blanco de la Titulación de Geografía y Ordenación del Territorio* (White Report on Master Degree in Geography and Land Planning), on the basis of different other documents made by other professional associations of geographers (such as the *Associació de Geògrafs Professionals de Catalunya* ¹⁷, the *Asociación de Geógrafos Españoles* ¹⁸ or the *Colegio Profesional de Geógrafos* ¹⁹) and of papers by other colleagues ²⁰, the following professional approaches are defined in Geography:

- *Territorial information technologies*. This approach encloses functions such as geographical information collection and territorial data bases generation, design and production of thematic cartography and map models making, and development and management of Geographical Information Systems (GISs). GISs are a computer application that handles, analyses, manages and maps at any scale a large amount of geo-referenced (precisely located in space) information on a large range of territorial subjects, of variables, of social and physical reality aspects.

¹⁵ Vid. our article "La hora de la araña. La importancia estratégica de la información geográfica", Cinco Días.1 de Marzo de 2002, p. 16.

¹⁶ The decision on the location of a new school, an aged people home, a bank office, a supermarket, a business headquarters, or of a highway layout... must be made by taking into account geographic, spatial or territorial variables. Geographical information must be understood in an integral and integrated manner and in its wider sense: physical environment, communications, town system, social-demographic and economic features of the population, environment...

¹⁷ Associació de Geògrafs Professionals de Catalunya (AGPC) (1993): Sortidas professionals de la Geografia, Boletín no. 37 (monography); AGPC (1993): "La profesión de geógrafo: elementos para la reflexión y el debate" or AGPC (2000): "La formació desls geògrafs i la seva inserció professional". Bolletí, no. 38, Barcelona, pp. 1-13.

¹⁸ Boletín de la Asociación de Geógrafos Españoles (AGE) (1981), no. 1: "La práctica profesional del geógrafo", Boletín de la AGE (1988), no. 6: La formación del geógrafo español and Boletín de la AGE (1995): no. 21/22 "La nueva realidad geográfica española", among others.

¹⁹ In reference to the need, relevance and opportunity of the Colegio Profesional de Geógrafos in Spain, vid. among many others, the work by F. Zoido Naranjo (1999): "El colegio de geógrafos, un instrumento necesario". Cuadernos Geográficos de la Universidad de Granada and Associació de Geògrafs Professionals de Catalunya-AGPC (2000): "El Col·legi de geògrafs: expectatives, incerteses i oportunitat, no. 40.

²⁰ Vid. the following works in publishing order: J. Oliva Espallardo (1984): "Geógrafos planificadores", Boletín de la AGE, no. 1, pp. 53-61; J. A. Campesino Fernández (1985) "El geógrafo en el planeamiento urbano", Boletín de la AGE, no. 2, pp. 24-35; J. Mª Feria Tobío (1988): "Algunas reflexiones sobre la experiencia del geógrafo como profesional liberal", Boletín de la AGE, no. 6, pp. 7-14; X. Mateu i Llevadot (1988): "Notas sobre la geografía profesional en Cataluña. La Avocación de técnicos geógrafos en Cataluña", Boletín de la AGE, no. 6, pp. 51-55; C. Castro Aguirre (1993): "Sobre la profesión de geógrafos", Boletín de la AGE, no. 17, pp. 181-185; M. Benabent y X. Mateu (1996): La geografía profesional. Boletín de la AGE, no. 21 and 22, pp. 161-165; J. Farinós Dasi (1999): "Prospección de aplicaciones profesionales para el geógrafo". Boletín de la AGE, no. 27, pp. 143-159; R. Menéndez (2001). "Inserción laboral y ámbitos profesionales del geógrafo", Boletín de la AGE, no. 31, pp. 159-176; O. Rullán (2001): "El proceso de codificación del oficio de geógrafo", Boletín de la AGE, no. 31, pp. 159-176; F.J. Tapiador (2001): "El papel del geógrafo en las directrices de ordenación territorial", Boletín de la AGE, no. 31, pp. 137-147, and M. A. Troitiño Vinuesa (2001): "Geografía aplicada y geógrafos profesionales en España: trayectorias, identidad y campos de actividad". In: M. Philipponneau (Dir.): Geografía Aplicada, Barcelona, Ariel, pp. 273-300.

GISs' application fields are trading (geomarketing ²¹), land and urban planning and town-hall management, life data managing, environmental analysis and management, environmental impact assessing studies, appraising of natural resources, planning and management of (educative, health, social, etc.) utilities, optimising of transportation, infrastructures (roads, railways, energy networks, telephone networks, water supply....) planning and some other areas not so well known such as citizen safety and Bank services ²².

In all these application fields, geographic variables must be taken into account. Such a large set of different factors and/or conditions, separated according to the type of performance, is impossible to monitor with no geographic technologies or GIS due to its large network of relations and inter-dependencies and to the wealth of geographic information to be analysed.

- *Physical environment, natural resources and environment.* Geographers supply the ability to approach specifically environmental problems within a global framework; they analyse problems' social and economical meanings as well as their territorial inter-relations at different scales. In this field, geographers are the experts in environmental problems and solutions; they are able to "think globally and to act locally", not just in the lab or on the desk, but especially on the ground.

Among other works in this field, geographers carry out environmental inventory and prognosis reports, appraisals and management of natural resources, risks prevention and assessment, studies of territory environmental impact, protected spaces planning and management, environmental planning and management, *Agendas 21 Locales* (Local 21-goal Reports), urban environmental reviews and sustainability strategies.

- *Land Planning and territorial development.* This field is bound more and more to Geography. Geographers supply a relevant added value to this approach tasks ²³, as they are well prepared to face the large changes experienced in the professional world of land planning and urban development: inter-disciplines; need to link infrastructure,

²¹ Geodemography, in the Anglo-Saxon language. In this field, the key variable are space (that is, territory to be more concrete) and society properly characterised (be age, gender, purchasing capacity, occupation, cultural level, life cycle, ...) and properly geo-referenced in space. In the Spanish and French professional practice, Geodemography (or Population Geography) encloses a wider subject matter, than that of the applied demography in its wider sense. Geomarketing's object is to segment –or to micro-segment- the market and to answer very precisely the questions: who gets what how when and where, to be able to locate any new potential market, to know the exact location of the competition, and to plan different selling, advertising and product-designing strategies for each new demand. Each life cycle implies different consumption patterns in relation to its population's purchasing capacity. Demography, Economics and Geography are the "discipline troika" on which Geomarketing stands.

²² In fact, themes included in Bank-specific GISs are, once again, social-demographic (profile of potential customers: age, gender, occupation, cultural level, ...) data, office networks (the Bank own and the competition), financial business analysis per geographic areas (what product in which area) and analysis of customer social-financial profile (payment default, debt capacity, credit objects...). The global analysis of these four variable groups and its mapping help territorial decision taking (opening of a new office or closing of existing offices, for instance in the frequent case of bank merging) and designing of strategies to catch customers from the competition.

²³ AGPC (1993) op. cit. p. 5.

urban and strategic planning; introduction of environmental sustainability; contextualization of local actions within global processes; scale-changing of urban planning, etc.

Tasks performed range from information collection, analysis and prognosis to designing public policies and strategic actions or to programming and management of specific actions, interventions and measures.

Among the works related we can mention land planning, sector planning, landscape planning and management, urban development and urban management, public administrations environment management, land sustainable development, social development, studies of inequality, gender and citizen participation, local and land development, strategic planning, application and development of European development plans, Geomarketing and business planning.

- *Population land analysis and demography.* Population and its economic activities are basic components of any land policy; however, population studies must be directed towards the study of its human and social groups, its differences and its needs of housing, services, utilities and infrastructures. In short, the "demo-metric" approach must be replaced by a social-demo-geographic study.

In this sense, population studies are made by Population Geography and by Social Geography as well as by sociologists and economists. Geography has proved to be very useful when carrying out tasks such as population's land planning, micro-scaled demographic projections, social studies of population and demography applied to business world²⁴ or the collection and processing of qualitative and quantitative information, and its spatial point of view is a significant added value.

- *Analysis of regional sectors and economic activities location studies,* such as studies of large geographic areas, regional development, geo-political and geo-strategic analysis, the more and more demanded reports on location, implementation, planning and land impact of economic activities (such as industry, tourism...), local development, regional integrating policies or studies of local areas planning and management.

- *Geographic research, formation and publishing,* field that enclose researching and creating geographic knowledge, university teaching, participating in publishing projects, continuous training, secondary school teaching, environmental education, multi-media and internet publishing, international co-operation and making of multi-media materials.

As pointed by the *Colegio de Geógrafos* and in the *Libro Blanco de la Titulación de Geografía y Ordenación del Territorio*, an analysis of these fields will evidence the diversity and heterogeneity in the working lines opening before the professional geographer.

In conclusion, since Geography has matured and is well developed scientifically and since Information and Communication Techniques seemed to be well advanced, it looks as if it were the time to make a general application of Geography and GISs to a large number of private and public sectors: in our present information and knowledge society, a business geo-strategy, *the geographic knowledge understood as a strategic knowledge* appears to be an ineludible requisite.

²⁴ The so-called "business demography" and the analysis of business human resources.

4. GEOGRAPHY AND SOCIETY IN SPAIN: THE MISMATCH BETWEEN GEOGRAPHY'S SOCIAL IMAGE AND ITS SCIENTIFIC AND PROFESSIONAL REALITY

A well-known colleague states that in Spain "*there is more social and scientific interest for the geographic fact than an understanding of geographic research*"²⁵. In fact, the Society seems to be alien to the changes experienced by the Spanish Geography in the last decades. Most of Spanish society (although there are some indirect relations ²⁶), private enterprise and public administration are largely ignorant of academic Geography, and its present blurred and faded image comes from Primary and Secondary School teaching, where geography's contents are completely watered down ²⁷ within the social sciences area (Human Geography) or the natural sciences area (Physical Geography) and where, in the worst cases, Geography is mistakenly identified with a descriptive and rote-learned discipline.

At this moment, one of Geography's main objects ("*an ancient science, a modern profession*" ²⁸), considered as a science and a specific discipline, is to be accepted, not only at a domestic scale ²⁹, but also at a European scale within the context of the so-called European Space for Higher Education, with year 2010 as its deadline.

Geography's insertion in this new European university framework will imply a challenge and a chance for our discipline. The chance of having more pervious frontiers, a fact that will make possible more continuous and intense contacts and the exchange of professors and students between European universities; the chance to compare contents, objects and applied methodologies in different countries; the chance for international teams to carry out enriching researches; the need to advance jointly in all the countries, with an international point of view and a corpus of common knowledges.

²⁵ Josefina Gómez Mendoza (2001): "La Geografía española: final y principio de capítulo", op. cit., pp. 19-27.

²⁶ In reference to Geography & Society relations, vid. the papers by S. J. Smith (1989): "Society and citizenship, a human geography for the 'new times'?", *Translations of the Institute of British Geographers*, no. 14, 2, pp. 144-156; J. Fien (1992): "Geografía, sociedad y vida cotidiana". *Documents d'Anàlisi Geogràfica*, no. 21, pp. 17-31 and by C. McIlwaine (1998): "Civil society and development geography", *Progress in Human Geography*, no. 22, pp. 415-424. See also the monographic issue of the Catalanian journal *Documents d'Anàlisi Geogràfica*, no. 40. 2001, no. 39, published in 2001, its significant and accurate title is "Geografias dissidents", and it is related on the side to the question.

²⁷ As a result of the implementation and development of Ley de Ordenación General del Sistema Educativo (LOGSE) (Educative System Planning Act) of 1990 and of present controversial Ley de Calidad de la educación (LOCE) (Educative Quality Act).

²⁸ Almost the Colegio de Geógrafos' motto, taken from a monographic report on Geography's professional exits and occupations published by the Associació de Geògrafs Professionals de Catalunya in 1992.

²⁹ It is already accepted although Geography does not have enough social and institutional recognition or enough public projection. In any case, geographers' identity problems come from our professional short age. There are degrees such as Engineering, Architect or Medicine that were created very long ago: Mines Engineering in 1777; Civil Works Engineering in 1799. However, the earliest Geography Master Degrees were awarded in 1997, while the Geography Master Degree and the Colegio de Geógrafos were created in 1990 (Real Decreto 1447/90) and in 1999 (Ley 16/1999, de 4 de Mayo), respectively.

But Geography's integration in the European context is going to be also a challenge: to face and profit from the experience and work carried out in the last years, while renewing Geography's contents and turning them into an applied approach ³⁰.

Since late 1990s there are 26 universities that prepare Geography Master Degree holders in Spain, and from 2010 on, there will be Geography and Land Planning Master Degree holders. A small part of those degree-holders will devote their lives to teach and research, while most of them will carry out applied works employed by the public administration (housing, statistics, environment, educative planning, land planning, urban development, local development...) and private enterprise (geomarketing, ...) or as self-employed professionals, solving many of the problems in our present society ³¹.

In the last ten years the Spanish Geography has started moving from problem description, identification and definition to proposing alternates; it is moving from land problems analytical and diagnosis stage to the solution proposing stage; it is moving from thinking to acting. This is the only way to have its potentialities and its possibilities assessed; this is the only way to build a useful, applied and active science.

The professional geographer, the technical-planning geographer (Map 2) begins to be as usual as the academic professor and researching geographer is, and it is in this direction where his/her contributions will be done in the future. Geography's inner battle to become a modern science may have been won by the technical and applied level; however its battle for its social recognition has been lost or has not begun yet. Geography must come down from its ivory tower; it must open up to society and its related sciences and it must be present at every territorial, environmental and social debate, of any scale: international, national, regional, and local.

5. CONCLUSION: SPANISH GEOGRAPHY'S PRESENT WEAKNESSES, THREATS, STRENGTHS AND OPPORTUNITIES

Next, we refer present Spanish Geography weaknesses, strengths, opportunities and threats, obtained from a *SWOT analysis*, a strategic planning technique.

Among its *strengths* (*S*) we have to point out its implementation as a university teaching ³² (Map 1); its consolidation in fields such as Land Planning, GISs and thematic mapping, environmental management or local development; the inter-disciplinary, versatile, flexible and integrating approach of geographical knowledge; its capacity to get integrated in multi-disciplinary teams and for analysis, synthesis, organisation and planning; its capacity to manage land and space information, to combine space and time information when explaining social-territorial phenomena; to prepare, express and

³⁰ At this moment, there are ideas to change the name of the Geography Degree for Master Degree in Geography and Land Planning. We think the name change will be relevant as it also implies a change of point of view: Geographic studies will be printed with the "employmentability" stamp. The future Geography and Land Planning Master Degree holder will receive both technical-methodological skills and contents that may facilitate his/her entry in a changing and dynamic work market, where generalist experts, such as the geographer, will play very relevant roles.

³¹ Problems related to commercial urban development, to natural environment planning and management, to industrial patrimony; services and utilities-related problems derived from demographic changes and dynamics, from environmental subjects or from present difficult geopolitics, among many others.

³² As evidenced by the 26 Universities where it is taught and the almost 1000 newcoming students for year 2003-2004.

understand graphic and mapped statistics; to make territorial management proposals and to relate phenomena at different land scales; to analyse and understand landscape; and, its direct land knowledge and its understanding of space relationships.

Spanish Geography's main *weaknesses (W)* are: its relatively scarce and weak professional implementation; its blurred professional profile, derived from task and function dispersion; its little presence in the State Central Administration, and most large and medium-sized private enterprises; the mismatch between university formation content and the requisites for professional performance³³; its scientific inbreeding and little dialog capacity with other university disciplines; its specialisation level; its relative misuse or little use of the opportunities presented by recent information and communications technologies and by information and knowledge society, and the contrast between the positive image of many individual geographers and the discipline's thin corporate image.

Among Geography's *opportunities (O)* we may point out the strategic relevance that geographical information has for any level of public administration and for private enterprises; the key relevance that land questions have from an environmental, social, economic, functional and political point of view³⁴ and for new information and communications technologies (ICTs) developing³⁵.

³³ Vid. also by publishing date: Boletín de la AGE. no. 6, 1988 (monography); M. D. García Ramón, M. D. & J. Nogué (1992): "Práctica profesional e institucionalización académica de la geografía en España". In *La Geografía de España (1970-1990)*, Washington, Aportación Española al XXVII Congreso de la Unión Geográfica Internacional, pp. 59-69; AGPC (2000): "La formació dels geògrafs i la seva inserció professional", Bolletí, no. 38, Barcelona, pp. 1-13; AGE (2001): "La formación del geógrafo y su inserción profesional", in *El territorio y su imagen*. XVI Congreso de Geógrafos Españoles. Reports and Debates. Málaga, Universidad de Málaga, pp. 219-254; J. L. García Rodríguez (2001): "El papel de la Geografía universitaria en la profesionalización del geógrafo", Boletín de la AGE, no. 31. pp. 225-237; VV. AA. (2001): "Geografía Profesional i formació geogràfica", Documents d'Anàlisi Geogràfica, no. 39. 2001, no. 39; F. J. Madrid Ruiz (2002): "Geógrafos: formación y empleo", Boletín de la AGE, no. 32, pp. 187-207, and VV. AA. (2004): Libro Blanco para el diseño del título de grado de Geografía y Ordenación del Territorio. Bellaterra, Universitat Autònoma de Barcelona (unpublished).

³⁴ Vid. the European Union document "European Land Strategy" passed by the Council of Land Planning ministers in Postdam, in May 1999, and published by the European Commission with the title: "A Development Scheme for European Community Space: Towards a balanced and lasting space development of European Union Land", to be found at the following address:
http://europa.eu.int/comm/regional_policy/sources/docoffic/official/reports/pdf/sum_fr.pdf.

³⁵ In relation to these technologies, several authors (Vid. R. O'Brien (1992): *Global Financial Integration: the end of Geography*. Chanton House. See also, F. Lasarre (2000): "Internet: the end of geography". *Cibergeo*, no. 141, among others) present the subject of the "end of Geography", the end of the nation-state, the death of geographical distance, understood in its more conventional sense: that of physical distance, of measurable distance. We do not share the idea; we think that this is the end for a kind of Geography and the beginning for another type of Geography. What has really changed is Geographic rules: we need to introduce new concepts and new theories linked to new space realities: M. Castells' flows spaces theory as explained in his work (1996) *La era de la información. Economía, sociedad y cultura*. Vol. I. sociedad en red. Madrid, Alianza, the connections, the topology of networks, of nodes... is increasingly more relevant when explaining space organisation, relationships between physical and human phenomena, and their land distribution. In short, a new space order is taking shape and we have to include in our research the analysis and systematisation of any new emerging geographies, of any new raising spaces. Vid.: J. Plana Castellví (1999): "Geografía y sociedad de la información", *Revista de Geografía*, XXXII-XXXIII, pp. 139-147; H. Capel (1998): "Una geografía para el siglo XXI". *Scripta Nova. Revista Electrónica de Geografía y Ciencias Sociales*, Barcelona, no. 19, 10 pp; H. Bakis, H. and E. Eveno (2000): « Les géographes et la société de l'information. Des effets pervers d'un champ réputé a-géographique », *Revue de Géographie de Lyon*, no. 75, / 1, pp. 7-9; J. Chaparro Mendivelso (2002): "El trabajo del geógrafo y las nuevas tecnologías de la información y la comunicación. Entre la cartografía digital y la cartografía virtual: una aproximación", *Scripta Nova. Revista Electrónica de Geografía y Ciencias Sociales*, Barcelona, Vol. VI, no. 119, pp. 3-8; F. Pisani (2002): "La nueva geografía en Internet", *Revista Latinoamericana de Comunicación*, ss.pp., or M. C. Torres Enjuto "La geografía de la Sociedad de la Información: ¿real o virtual?", *Boletín de la AGE*, no. 35, 2003, pp. 153-171.

The *threats* (T) Geography is facing are: the appropriation of geographer functions by other professionals that are not geographically-trained and are not qualified in territorial or environmental questions ³⁶; the reduction of Geography to just a school discipline; the danger of keeping on to generalist geographical knowledge ³⁷ and, finally, the breaking down of Geography as an unitary science and the dispersion of its knowledge in separate sub-disciplines (geomorphology, climatology, biogeography, urban geography, geodemography, rural geography...) when these sub-disciplines lose Geography's integrating focusing approach.

If the weaknesses and threats are overcome, if the strengths are reinforced and the opportunities are taken, Geography as a land-information analytical, understanding and explaining-oriented science will play a role much more relevant than the function that present Spanish society, private enterprise, public administration and educative system are assigning it.

In our opinion, Geography's value is only assessed when the social costs of "non-geography" are appraised. Since Herodotus, 2500 years ago, the "*geographical knowledge*" has always been a "*strategic knowledge*" for any military, political or economic "staffs" ³⁸. It is precisely this strategic value of geographic knowledge what provides the

³⁶ Or the meaningful loss of Geography's own concept, so frequent in mass communication means or in newspaper leaders, when the author mistakes, in a wrong synecdoche or an unfortunate metaphor, "geography" for space distribution or a simple "mapping" of either unemployment, activity, industrial de-location, criminality or any other phenomena. The same highly disseminated means, however, may bring out Geography's potentialities. Vid. for instance, Health-expert J. Benach's article (2002) "Geografía de la salud: el soroeste español bajo el microscopio", El País, 11-06-2002; Sociologist J. M. Iribas' (2004): "El territorio en positivo" 18-01-2003; Architect J. M^a. Montaner's "Ahora el territorio", El País, 23-12-2003; Geographer J. V. Boira's "Ficciones territoriales", 6-01-2004; Political Science-expert F. Vallespín's "Vuelve la geografía", El País, 17-03-2003, refers to the return of classical geographic factors to territory, to place; Economist A. Font's article (2003): "La nueva geografía en la sociedad de la información". Cinco Días. 5-08-2003, refers to "Geography of Emerging Success" (India-Bangalore's area-, Israel and Eire) based, basically, on TICs development, and cautions against the mistake of thinking that the so-called "death of distance" implies the "death of location" p. 20; Economists F.J. Goerlich, F. J. & M. Mas' article "Localización territorial de la actividad", Cinco Días, 18-03-2002, makes an express mention to our discipline, as does J. Soler Matutes' article (2003): "Geografía económica tras el 11-09-2001". Cinco Días, 22-08-2003, where the author says that "Economic Geography itself foretells the end of the activity concentration process when agglomeration costs, and in our case its risks, do not compensate its many drawbacks". On our side (P. Reques Velasco), we have published in the economy newspaper 5 Días in the last three years around twenty articles with an implicit or express Geographic or Geodemographic background: "El factor D: Envejecimiento, Inmigración y Estado de Bienestar", 31-01-2001, p. 18; "40 millones de razones", 13-12-2001, p. 15; "La demografía, mar de fondo de la economía", 12-12-2001, p. 16; "Educación capital humano y territorio", 4-01-2002, p. 16; "La cohesión socio-territorial en España, tarea inacabada", 21-01-2002, p. 16; "Las otras piezas del rompecabezas argentino", 1-02-2002; "La Geografía del Bienestar", 15-02-2002, p. 16; "Inversión de tendencias en las migraciones interiores", 29-04-2002, p. 18; "¿Que globalización?", 13-05-2002, p. 16; "El futuro demográfico de la UE: una ecuación con mil incógnitas", 8-04-2002, p. 16; "¿Qué política territorial para los espacios rurales?", 7-06-2002, p. 18; "La inmigración extranjera ¿amenaza o necesidad?", 24-06-2002, p. 18; "SOS África", 8-07-2002, p. 16; "Las dos Españas demográficas", 19-08-2002, p. 14; "Desarrollo sostenible, utopía necesaria", 26-08-2002, p. 14; "Los países árabes y la larga sombra demográfica de la sharia" 20-09-2002, p. 15; "La quiebra del sistema demográfico asturiano", 12-11-2002, p. 15; "Convergencia demográfica con Europa sin convergencia social", 23-11-2002; "Migraciones y globalización", 14-04-2003, p. 14; "¿Remontará la fecundidad en España?", 8-08-2003, p. 15.

³⁷ The often-referred-to criticism: "to be an apprentice in everything and a master in nothing".

³⁸ Lacoste, Y, (1973): La Géographie, ça sert d'abord à faire la guerre. Paris, Maspero.

applied approach to Geography. To this relevant role of a land expert we can add (and nobody may deny it) its large formal and non-formal educative value in the classroom and in any communication means, in the universities ³⁹ and in society. Therefore, the challenge before our discipline in the 21st century is to rise to such a high social responsibility.

³⁹ Not just as the Master Degree in Geography in the 26 Universities that award it, but also in the 40 University Departments that have geographers teaching for other master degrees or post-grade subjects as, for instance, the Universidad de Alcalá de Henares, that is teaching a well-known master course and a Doctorate Course on GISs. The Universidad de Girona is teaching also a well-known post-grade non-attendance course on GISs through the SITGE (Servei de Sistemes d' Informació Geogràfica y Teledetecció) thanks to Internet and other new technologies possibilities

THE PROFESSION OF GEOGRAPHERS IN SPAIN

FERMÍN RODRÍGUEZ GUTIÉRREZ

GEOGRAPHER, A PROFESSION WITH HISTORY

In my opinion, Geography started when the man stood up, looked around himself and told the community about the observed landscapes. From the beginning, Geography (that two-stage act composed of observing the territory, the space in which every man usually moves around, and telling about it to the nearby people) has a practical, useful intention. Why does the explorer tell about it? To tell the tribe where to find fruits and water, that is food, where to find security, where other tribes are,... He talks to describe a place, to fix an itinerary and, in order to be more precise and better understood, as the spatial dimension he is dealing with is always very complex, he will draw the route to water and to the main guiding references on the earth. Once he commands writing, he will care those descriptions and do literature; maps will be zealously kept and illegal copies will mean death penalties, as happened at the pilot and seaman academy of Sagres (Spain), where the act of observing, exploring and preparing material to be used to tell about the observed is institutionalised. A geographer must tell about his experience with the territory, if he doesn't, if the information does not reach the community and if he keeps it to himself, he is no geographer. He has to tell about it. Something else is how, to whom and how many, but, what is clear is that "doing regional Geography is narrating, narrating within some modal and temporal narrative structures, after a reflection attending to the recognition of the real object" (Gómez Mendoza, 1989, 111), all of it with a practical intention. This is the way Spanish Geography seems to have taken for the past ten years.

Looked at it like that, it is certain that Geography is an old profession and, therefore, has a lot of adhesions. These are so numerous, that José Ortega Valcarcel (2000, 7) thinks that this is a new discipline, which fact "does not mean that we have to ignore the existence of a tradition of over two thousand years of practice under the same denomination, Geography". That "same denomination", that hallmark, should actually be used with a practical intention and be object of a wide spreading campaign to claim the tradi-

tion of Geography in a specially important moment for the corporation of geographers.

The adhesions given by tradition, which are often contradictory, contribute to the richness the corporation, which is built up, or even invented, with those permanent adhesions. This happened, for example, with Herodotus and Xenophon, who serving an expeditionary army set the route at sea and discovered other folks immerse in their history; with the Renaissance cosmographer, who forced cartography serving the sailing princes and made true what Adam Smith considered one of the most important discoveries of mankind, the discovery of America and the Cape Route; with statisticians from different parts of Napoleon's Empire, who did a regional inventory trying two impossible matters: to quantify reality and to print it in a book, which, as we all know and Borges tells us, are a vain plan. All these images form the corporative tradition which give Geography the character of a practical, useful knowledge linked to the territory. In any case, this wide history has allowed the corporation to be portrayed by masters like Velazquez or Vermeer, which fact is of great taste and would make a good logo for a visit card of any corporation.

As many other professions, cosmographers, cartographers, pilots and geographers are, above all, those who have a certain knowledge which gives results which are securely kept and transmitted in exclusive learning groups. In the 19th century, this knowledge will become science, especially after the inclusion of Geography in University and its institutionalisation as a science done by and for teachers. In Spain, in the 1960's, there is a boom or a spectacular growth which lasted two decades. There is an increase in the number of students, teachers, subjects, areas of study, magazines, published books,...

THE STRUGGLE OF GEOGRAPHY

The struggle of Geography is one of its signs of modernity. This upheaval is not exclusive of Geography, or of Spanish Geography, not even of the remaining social science, it may be extended to all scientific and cultural perspectives of mankind, which enter the third millennium of the current era. Some evidences of this crisis are the fading traditional limits of the different scientific disciplines and the alterations in the command of the established fields of knowledge. These evidences are more acute in Geography, maybe because of the history of the discipline itself and its pretension of globalisation, which characteristics seem to be part of its constant guidelines and which necessarily make it a very "ambitious" discipline (Dresch, 1917), as it "forcedly includes all fields of knowledge" (George, 1961, 341) because it is the "total science of human space" (Boye, 1964, 162). This understanding and comprehensive ambition might be the basis of the crisis, as maybe the conflict with reality arouses frustration accompanied by the mistrust of the big theoretic and methodological constructions, unable of facing the challenge of understanding and explaining all complexity of reality. If we believe Borges, this incapacity is inherent to the material support in which the geographical reflections are printed, as a the pages of a book, of any book, cannot contain reality. Geography used these means for the main projection of its cultural and scientific aims. Until the 1990's, books have been almost exclusively aimed to teaching. There has been no acceptable social demand to apply knowledge, and this would have affected the deba-

te on the identity and epistemology of Geography and would have given it a new direction. On the contrary, it has been reduced, in many occasions, to the personal justification of university teachers of Geography about their academic work. This has currently driven to the fragmentation of the discipline, which fact makes it more difficult to be understood by young people. This and the "minor presence of geographers among secondary school teachers" constitutes, according to R. Mendez (2003) one of the reasons which compromises the future of the discipline in our country.

Nowadays, it has been widespread that Geography is to be understood as a discipline which should join those other disciplines which try to match the ideas of reason and theory to make the society based on them advance. People with post-modern opinions about Geography have reservations to accept its scientific ambition: "we definitely have to recognise that trying to reduce it [the geographical knowledge] to more or less scrupulous scientific canons cuts down severely its sense and possibilities, and leads to (...) dead ends" (Ortega Cantero; 1987, 104). Apart from this standpoint, Geography becomes an art and, as such, needs nor theory nor method to grow. It needs the capacity of developing it and "it appears little by little and it matures until, without knowing when or how, it is fully there" (García Merino; 1987, 12). Although these ideas deserve respect because they are based on real facts, they deviate from the practical or social function of the illustrated project, which has been blamed to lead man to the exhaustion and degeneration of his resources and experience. As the technical progress and administrative regulation have pluses and minuses, it is necessary to think carefully about the managed achievements before renouncing to illustrated illusions, as "there is not such a human substitute for what has been managed by the scientific-technical progress" (McCarthy; 1987, 90). In this sense, the current Geography, understood as a social discipline, needs to search beyond its limits a theoretic focus which allows it, from a universal perspective, to connect the investigations of different fields with the main aim of becoming a valuable, rational model which acts as model to allow critics of the existing institutions and create a "new culture of the territory (...), a new way of understanding it and of focusing development policies (...), because there is no other focus or engagement book with higher geographic contents" (Romero, 2001, 153). The interest arisen in the most recent Spanish Geography in territorial development is a clear prove of it.

GEOGRAPHY IN SPAIN: A SOCIAL SCIENCE

That development crisis is nowadays over. Although some acknowledged geographers (Claval 1987,433; Ortega, 2000,552) recognise that the academic community is confused, most of them do not think the actual state of the discipline justifies it. Claval (Ibid., 133) locates the crisis between 1960 and the end of the 80's and interprets it as being characteristic for a growing stage in which there is an evolution from naturalist to social perspectives. Currently, after the restructuring period has finished, some authors, like, for example, Anthony R. Souza, announce the arrival of the "golden age" of Geography. In Spain, Geography may be considered a discipline which has become stable in concepts referring to man and society, that is, a social science which attends ecological matters within the study of social life in its different spatial scales. It is taken as a social science but it still preserves its global perspective and maintains its awareness for

inter-connection and complex inter-actions of the fragile, dynamic balance taking place on the surface of the earth. This is Gaia, a land without borders or divisions which patiently bears the temporal actions of mankind, more and more obstinate in deteriorating their vital constants, which evidently leads to problems and responsibilities in the future. This way of thinking about social life within the natural environment is part of the cultural heritage of geographers and is now being accepted by society.

The assignment of Geography to the field of a unitary social science is clear in the "critical" approach (Gregory; 1984, 119) which goes further than the traditional dissociation of nature between the subjective nature of man and the objective nature of his environment, both of them united through the multiplication process of social work. It does not pretend to reduce the attitude towards nature to a single modus of communicative relationship with it; it does not subordinate it exclusively to instrumental action; it pretends to adjust it to a phenomenological configuration. All of it within a concept of society which, according to Habermas (1981, 120) is formed by "all systems which using coordinated linguistic actions (both instrumental and social) take over the external nature (through production processes) and the internal nature (through socialisation processes)". If we introduce social change in this concept, that is, the evolution of society (which is not a generic subject, as the real subjects of evolution are located in regions which are occupied by people with personality), we will obtain a definition of the system, which is social, personal and territorial, and is subject of evolution. In short, we obtain the development of the territory, the most specific practical field of a geographer.

Geography does not only consider "objective" relationships with nature in ecological terms (Ortega Valcárcel, 1974, 12), it goes further and also includes an ecological analysis from a wide, analogical perspective, including the dialogue of society with its physical environment, as defended by another Ortega, Nicolás (1987, 116), who points out the "continuous metaphor which connects different ontological levels (matter, life and spirit). Thanks to this, the different orders of life and the different time scales, that is, nature and culture, are solved in the relation between man and his environment, mixing together, as there is no culture other than that in relation with nature and there is no man other than that in relation with his environment".

Nevertheless, a feeling of confusion and perplexity is present in the writings of recognised geographers when relating the horizon of Geography (Ortega Valcárcel, 2000, 553). This confusion is the result of the serious objections conferred to a disperse discipline, both in the object of study and in its methods, with a vague profile ambiguous to society. This perplexity is the consequence of the paradox given by the widespread believe among geographers of being on the vortex where our civilisation extinguishes and, on the other hand, having a tool box with the mentioned negative aspects. The unravelling of that paradox is the challenge for Geography as a discipline of the 21st century. Ortega Valcárcel recommends two ways of solving that paradox. In the first place, to approach the immediate needs of society, reduced to the territorial dimension for Geography, as it is in that dimension where our discipline has a comparative advantage, derived from a traditional practice which provides ideas, methods of observation, working procedures and adequate tools to professionals recognised as geographers, whose task and motivations will enable or not the reinforcement of the discipline. For this reason, if getting over this weakness is an internal matter which depends on the better understanding of the discipline by geographers themselves, the author, recom-

mends, in the second place, to reflect on the history of the discipline, as a way of obtaining the needed cohesion to solve the mentioned essential paradox.

THE TASKS OF A GEOGRAPHER: LISTENING TO PEOPLE AND READING THE TERRITORY

A geographer gives explanations for places and/or the relation between people and space. People and space form a territory, a different reality, a different unit to that of its two initial components. Thinking about social life in its natural context has been a constant in modern Geography from Humboldt until now. Nevertheless, at the same time as Humboldt states the aim of his science, he points out how the complexity and wide extension of the object of study oppose to the comprehension of the principle of unity and inter-dependence of the cosmos. In this sense, he supports that "even if the problem had no solution in the whole and no partial solution but a tendency towards understanding the world, that object would not stop being the eternal and sublime object of all observation of nature" (Humboldt, 1874, 165). Currently, in a world whose elements are closely connected to each other, where globalisation is one of the characteristics of the current times, local matters are given importance and new ways of listening to the citizens develop as a way of participating in public affairs in order to increase the quality of the territory. For this reason, listening to the people and reading the territory, two old occupations of geographers, are nowadays tasks with plenty of future.

GEOGRAPHY: A PRACTICAL DISCIPLINE FOR THE WORLD OF LIFE

Daily, many people in Spain claim getting over the above mentioned dichotomy with their professional exercise. Practical and technical interests are part of knowledge and are not placed over the historical process of human development. The "critical" approach of the new social science integrates both interests, contributing to the process of human emancipation as "knowledge-acquiring processes do not only work as means for the reproduction of life, they also determine the definitions of that life" (Habermas, 1982, 161).

The consolidation of Geography is going to be a difficult task because it evidently assumes the difficulties and uncertainties of its socio-spatial object of study. It attempts the difficult task of interrelating the subjective purpose and the external systems of relations. Although the field of the social scientist is symbolically pre-structured, either through traditions, texts or spatial configurations achieved after an interpretative understanding, social science does not end in the ideas it involves. There are forces which intervene and cannot be explained in intern logical terms. In order to accomplish a new social theory, it is necessary to combine conceptual and empirical analysis.

With current Geography, scientists try to attend the problems of "grammar of life", which, from the point of view of the territory, become survival challenges for the third-millennium man of this era. The social aim of Geography is to discover the shape adopted in space by the structural distortions of the relationships of mankind with the aim of transforming them and so get over the mere contemplation and scientific "objectivity".

The exercise of Geography from this point of view is directed to the study of the spatial dimension of social life. It is based on the understanding of the spatial relationships of human groups through historically changing categories and rules which are reflected not only in the organisation of the human material activities through work, but also in those among men, and between men and nature throughout time, all of them expressed with forms, symbols and values which, at the same time, are the reflection of the domination processes of a society understood as a dialectic unity formed by moments and elements.

It would be useful to focus in the world of life, that one formed by the daily actions of the participants who form a social group and which require a hermeneutic and systematic analysis, as social actions are both a symbolic action and a system. The new conflicts do not arouse from distribution problems, but from problems related to the "grammar of the different ways of life" with which Geography compromised a long time ago, that is: ecological relations, growth limits, regional autonomy, places in danger, participation in the town government, ways of life in the towns and in the country, local development, territorial governance,.... Gregory(1984) sets the geographic task in integrating three types of explanations under a single supposition: "the main aim of social science consists in questioning what we consider evident". Habermas (1988, 404) specifies this approach recommending a functionalism with historical direction, while he denies the validity of cybernetic-based approaches, as social systems are different from organic ones: learning processes take place using language as a vehicle. In social science, the insufficiency of the functionalist approach is difficult to solve as long as it is understood as an empirical-analytic investigation with aims and purposes determined according to programmes (McCarthy; 1987, 258). In short, the control values which determine the aim or state of balance are not given; they do not exist in social and territorial systems. They could be found, the most, if the investigator or the group would set those aims through a general and open discussion with the needed information about the changing conditions of the system. Even so, this way of understanding a structural functionalism would supply with a "second degree understanding" subordinated to a political discussion, or ideally, to a rational consensus. The use of a functionalist framework for the empirical analysis of society should not be done without introducing some changes related to hermeneutic procedures.

It is important to begin understanding the fact that spatial structures are not composed by the same and universal group of basic value approaches, which T. Parsons calls pattern variables and guide all important decisions and justify repetitive spatial shapes. On the contrary, they correspond to a particular historical level (McCarthy; 1987, 259). Spatial patterns, that is, role systems, which condition spatial actions are determined by culture, they originate in tradition. To certain extent, the understanding of the spatial order "causes the same methodological problem to the social scientist as the sense of documents to the historian or the meaning of texts to the philologist." (Habermas; 1987, 179). It is important not to forget that spatial patterns are not the result of mere contemplation, but of participation in the world. In this sense, it is logical that ways of social work, environmental conditions and politic domination systems are links which may help to read the territory. The "immersion" in a place, as well as the personal attachment to a community, are not only the needed counter-balance to a cold objectiveness, they are a part of the field of social life. Nevertheless, this immersion is not everything, as human action is inscribed in a historic unity which forms through communicative

relations. The reflection attitude means that the interpreter has to face a tradition and, in this sense, the organisation of space reflected in the landscape has been considered as a "historical totalisator" (García Fernández; 1975, 2). Nevertheless, that "text" or configuration of the landscape or territorial unit is not given and understood as something universal. The interpreter is the one who has to find its sense of being and apply it. On the opposite, if he wants to understand the meaning of the "text" or landscape configuration or sense of the territorial unit, he "cannot disregard himself and the specific hermeneutic situation in which he finds himself. He has to refer the text to that situation if he wants to understand it". I use this citation from H. Gadamer quoted by Habermas (1988, 249) to value the "immersion" in a geographical context, which has to be done bearing in mind the tendencies of the different references. This has to be done in such way that the explanation does not become exhausted with the understanding that the agents have of the spatial organisation. On the contrary, it is necessary to reach the level where those images are produced according to an underlying system of rules.

GEOGRAPHY AND POLITICS

A practical Geography is a compromised Geography, that is a "necessary moment" in an emancipatory practice which, due to its aim, overcoming domination relationships and managing autonomic conditions, should endow a guiding understanding of the action. It would be necessary to distinguish between the organisation of the action and the Illustration process. According to Habermas (1987, 13) "the decisions for political fight cannot be theoretically justified in advance and then be imposed organisationally, these must take place in the practical action after the consensus of those who participate in them, those who are conscious of their common interests and know the circumstances and their probable consequences, those who know the risks they may accept and what expectations mean that there is not single theory, or even a possibility for it, which assures the potential victims in advance a world historic mission".

It would be interesting to specifically separate the three functions which intervene between theory and praxis and in Europe have been traditionally ascribed to the organisation of political parties. According to Habermas (Ibid. 42) theories can only be formulated if those who work on the subject are free to do theoretical discourses. The organisation of illustrated processes in which such theories could be used, can only be assured if "those who carry out the active illustration work very cautiously and organise an action field for communications depending on the therapeutic discourses". Lastly, the political fight will only be guided in a legitimist way if the important decisions "are related to the praxis discourse of the interested party". These three tasks cannot be carried out by one single organisation and according to the same principle. Even if this was so and succeeded in its task thanks to the participation of a "ruthless history", both the society and the organisation would end up suffering its consequences.

A PROFESSION WITH FUTURE: GEOGRAPHER

A. de Souza's coming of the golden age of Geography will take place with the revaluation of local spaces, as these are the basic unit of development (Sforzi; 2001,19).

This development is understood as a geographical synthesis of the social change in the territory in a historic stage of civilisation characterised by globalisation, which fact makes even more evident the existence of Gaia as the only home of mankind, formed by a system of flows defined in the geographic scale in interaction nodes of processes, the towns.

The local territory is a scale of intervention focused towards the quality of the territory. This concept goes beyond that of total quality applied to company management and uncovers its complexity when applied to the world of life of a territorial community, as described in the guide which Daniel Hunt (1995) wrote with the aim of diffusing quality methods for the territory. In Spain, this approach has led to an investigation-action line planned in common by scientists and social performers in the project Eurexcter, carried out in Spain by the *CeCodet* of the *Universidad de Oviedo*¹. Nevertheless, there is enough reflection and experience to spread among society concepts and tools to guide the development of the territory to quality. In order to manage this construction all social agents seem to be able to:

- Listen to people and read the territory in order to participate
- Manage the mobilisation and participation of the citizens through cooperation structures for the management of the widely shared territorial project.
- Encourage territorial social dialogue
- Integrate the factor time in the project through a strategic territorial plan
- Use employment, culture and environmental quality as important indicators of local development
- Create new local structures of regional dimension and variable geometry managed by significant social agents

THE GEOGRAPHER, AN HERMENEUTIST OF THE TERRITORY? GEOGRAPHY, A HANDICRAFT?

If spatial structures are not constructed with the same set of basic value orientations which guide all important decisions and justify repetitive spatial forms, then they correspond to a determined historic level and may be guided by culture and have developed from tradition.

Social learning processes, as opposed to organic ones, are based on a cultural background which gives an identity to its society and territory. Human communities carry out their life under a cultural context in which all connections between them and nature and among them, are set within a reference framework formed by meanings, rules and shared values. Geographers need to take this in mind to favour their own reflections (Capel, 1981, 447), as well as managing directly a better understanding of their object of study, as the "representation" of geographic matters given by the different parties is very important in order to rationalise the geographic discourse. The reason for this is that the latter exceeds the simple coherence of actions carried out dealing with "objective" phenomena. This is how those who understand Geography as an art appreciate the

¹ www.uniovi.es/cecodet and www.eurexcter.fr

cultural dimension, which, in the last case, is meant to include the understanding of the meaning of things. It is justified to talk about the progressive "ability" acquired with the exercise of the profession to "understand and make symbolic outlines / plots understandable" if social science uses hermeneutics to enable the understanding of meaning, either through written meanings or "those in a non-linguistic system of symbols" (Habermas; 1988,277). This interpretation ability can easily become an art when it achieves style and is closely related to something else which is very useful for teachers, the ability of convincing and persuading.

This conception is fixed on logic, as in social science preference is given to value matters related to an interpretative understanding. For some geographers, the fact of limiting geographic knowledge to scientific canons reduces its sense. Geographers carry out a handicraft task which does not need a theory or a method and whose mastery is achieved little by little.

The cultural dimension is inherent to the object of a Geography of mankind, as its societies, i.e. its communities, acquire identity disregarding the number of members there are and, on the contrary, regarding its culture, developed throughout a learning and socialisation historic process which is instantly shown in the region/town as a space where the "world of life" of a social group is inscribed. This is why life styles, customs, symbols, values for the use of the territory and understanding of the quality of the particular region/town in comparison to other ones are important for the simple functions of the consumer-producer man and modify them.

It would be convenient to manage the command of traditional hermeneutics, understood as the "art of understanding the sense object of linguistic communication, and turning it understandable" (Habermas; 1988, 277) when exercising Geography. The same as rhetoric is the "art of convincing and persuading in situations in which practical matters have to be decided". Both abilities are useful because they improve the communication competence of convincing and persuading. In my opinion, the "concurrence of the scientific approach with aesthetics and literature approaches" claimed by Terán (1977, 58) should be done with the commitment to ingenuity, creativity, elegance and simplicity, and not to sophistication, complexity and "innumerability and catalogue" reviled by Cervantes, rejecting, at the same time, poorness of style or language which has been distorted by instrumental procedures.

IS THE GEOGRAPHER MORE THAN A MERE HERMENEUTIST OF THE TERRITORY?

The territory is like an extended text over the skin of Gaia which an expert, provided with a profession, decodes to allow its interpretation and so set its sense.

The problem is that the text is not given as something universal and the interpreter is the one who has to look for its sense and apply it. More than ever, there is another conflict in Spanish Geography between those who assign it to the model of a normative-analytic science which hypothetically assumes action guidelines, those who assign it to a functional-structural context, which does not reduce the analysis of space to the study of shapes but it does not reconstruct it either, and lastly, those who exercise a Geography

which is totally linked to History, developed without searching connection with general theories. This disparity is related to the object of study of social science itself and is not exclusive of Geography, as "it is not possible to assign the society with a general system of theories as it may be done with objective natural processes" (Habermas, 1988, 83). If natural and spiritual science may be developed without connection, social science has to bear the tension caused by both approaches. These approaches are inevitably contained in social science, which fact makes it necessary to find a superior synthesis in which both of them are attended, as it is not possible to ignore one of them and keep to reality. This way, the vain debate between empiricists and rationalists, between those in favour of a positivist, scientific Geography which formulates and proves hypothesis about empirical regularities and is based on an abstract concept of space and those who are in favour of a comprehensive and historic Geography with the aim of describing and understanding determined spatial configurations. The division in two sections of Geography was based on these two approaches. "Theoretical" Geography was associated with a general Geography which operated in a systematic way divided in branches and in an integrated way through the "spatial" analysis, while the "comprehensive" Geography was linked to a regional and more or less positive Geography which used a corologic approach. Nevertheless, this description of the "state of art" is not adapted to the current discipline reality of Spanish Geography, as it already started to evolve towards a wider interdisciplinary integration in the 1990's.

IS THE GEOGRAPHER AN INSTRUCTOR OF THE TERRITORY?

Geographers analyse a high number of aspects which affect the groups and the space (the dimensions of the components of the territory) equipped with the suitable instruments (which are more and more sophisticated) and the method (which has been transmitted and refined through time).

Using the ability to synthesise and the eye of a geographer, diagnosis of the situations are made. If a situation is known, why not go a step further and propose a treatment? What tool-box should be used? What instruments should the geographer carry? A geographer is an infallible expert who, after using his method, proposes the best or the most convenient, as if the territory was a biologic or cybernetic system to which he did not belong. Should he otherwise consider that he is not doing science if he believes he cannot do neutral assessments? The duality of the territory and its character as a system will allow the geographer to use process control techniques, such as, for example, assessment of strategic decisions and planning of certain important aspects. So, as we can see, a geographer can act as a doctor of the territory, though the functional dimension is not the only one in the territory, there are other ones which require other kinds of comprehensive explanations which may be read in a historic sequence and are affected by eventual phenomena derived from the participation of different agents and their environmental interaction.

If the territory is nothing less than the result of the mixture of life and system, Humboldt's paradox about the impossibility of totally understanding its complexity becomes logical in the need of trying with an utilitarian effort with the aim of guiding the action such a way that knowledge and experience determine. The geographer acts as

an instructor, that is, like a man who teaches what is needed to handle the territory. This is taken as an operative concept and a discipline which he contributes to create, as although physically there is only space, geology, soil and water, atmosphere and organic life, if we introduce man and his capacity and sociability, we create the territory as a space of geographic mankind, that is, regional, constructing itself with the participation of the geographer.

A PATIENT NAMED REGION

A region is "not an insignificant modality of social phenomena but one of its components. It is the space where a community is integrated". These sentences correspond to Dumolard (1975) and gain special interest when it is admitted that there is no unilateral and inflexible development of a subject, of mankind. This enables to carry out regional analysis, as groups, communities and regions, as territorial forms of societies, are the subjects of evolution. If this analysis may be reconstructed according to a logical sequence, this does not mean that its processes are triggered according to a fatalistic need but according to the marginal, eventual conditions, which are basic to explain how society changes and its spatial segmentation.

Ecological conditions, historic facts and social learning are gathered in the cultural tradition and deeply combine to lead to a territorial change. The regional geographic analysis is directed towards a unity, a structured totality which contains elements which have been transformed or not from their previous state and which conform the most recent stage. The historic totalisator which García Fernández talks about varies according to how "systemic problems", "social learning significant processes" and "special circumstances" structurally combine, as the latter explain the change towards a new territorial way of integration and a horizontal dimension which allows a functionalist analysis. That is, it can be used to "explain the special evolution undergone by societies when adapting to ecological conditions and historic circumstances". Geographers are interested in knowing how and why regions change, how territorial units develop. Traditionally, mechanisms of social evolution have been understood in a technical or structural sense. None of these approaches explain the mechanism of development which allows to explain territorial change and enter a new level of development, even through conflict, as although learning may allow the understanding of technological growth and therefore the failure in the adjustment mechanism between productive forces and production relations, it does not explain how to solve the existing problems. This requires a new practical-moral knowledge which does not affect the capacity of control of the external nature, but the structures of communication, that is, the inner nature of the participants. The evolution of territorial units may be explained with ontological models which represent "the most promising current" strategy of investigation, as McCarthy said in 1987 (288). This would lead Geography to fix a hierarchy of structured units in which the most recent stages presuppose earlier ones and are constructed above them.

We can do a biological parallelism if we consider that the capacities of an adult are the result of the synthesis of maturity and learning, which evolves through a series of limited and progressively more complex stages, having each one of them traces of the

earlier one. This does not mean that there is no overlapping, discontinuity, regression,... The possibilities of a region are also contained in each of its stages, each one of them being a qualitative totality different to the other ones and which invariably follows the previous one, so a determined stage cannot be reached without having gone through the earlier ones (Leibnitz; 1703)², whose elements are kept, transformed and reintegrated in the subsequent ones.

If learning is revealed as a base of territorial development, who learns, individuals or regions? Habermas (1981; 156) answers this question denying the exclusivity to either of them: "the evolutionary process of learning of societies depends from the competencies of the individuals who belong to them. These, furthermore, only reach the quality of isolated monads if educated within symbolic structures of their vital world". Therefore, this is a several-stage model of mutual dependence, a model of external factors, of recreation of an atmosphere in a spatial unit which so becomes a territory through a learning process which takes place in two dimensions, the technical and the practical one. From the first one we can follow the evolutionary logic of productive forces and from the second one that of the forms of social integration. Both of them are especially determining to explain the development of the later ones, as they make possible the use of the existing productive forces or the generation of new ones.

The recent evolution of Geography dissociates it from the analytic empirical procedures of the social neo-evolutionism which develops a system variant. The reasons for this are, in the first place, that there is no equivalence between the changing process and social learning, and, in the second place, because it is difficult to determine the survival capacity of a territory. In a natural environment this capacity is measured by the possibilities a population has to find its balance in it, while in the social and cultural level the matter of identity of a society depends on its values, which change with learning processes. For this reason, it is difficult to certify the death of a territory, as the physical survival of a certain amount of members is a necessary but not sufficient condition to maintain the identity of a society. In the third place, it is very complicated to know the equivalent in the scale of the territorial evolution. If this is given by the increase of complexity in a biological model, this measure is not enough to establish levels in a territorial development. The directional criteria of progress appealed for by neo-evolutionists (increase of the complexity of the system, functional specificity, integration) do not seem to be adequate. On the contrary, progress advances with a dialectic process, as "with the acquisition of capacities to solve problems, the conscience of the existence of new problems is reached" (Habermas; 1981, 167). This leads to important conclusions for the exercise of the geographer, like the fact that all territories are developing or that there is no one which may be condemned in advance and that all of them need geographic work to develop. A higher stage in the development of productive and social integration forces frees the geographer from the problems inherent to the old social formation in its

² Nothing happens suddenly, and one of my main and most verified maxims is that nature does not skip stages. I have called it continuity law... and the use of this law in Physics is every important: it means that landscape, from the smallest to the biggest element, and vice-versa, is produced always from the intermediate, both in degrees as in parts and that a movement does never start right after rest or is reduced to it but after a minor movement, the same as we cannot go along a given line or distance without having gone through a smaller one earlier. Believing something else means having a scarce notion of the immensely subtle composition of things, which always and everywhere includes a current infinite.

relation with the space and the use made of it. Nevertheless, some new problems may increase their intensity if they are compared to the old ones, which fact questions the lineal-progress model.

THE OBJECT OF GEOGRAPHIC KNOWLEDGE: THE TERRITORY

It is possible to understand that the aim of Geography as an actual discipline is a "practical" one if it is taken as the aspiration to eliminate the unbalances produced in the development of social life. Of course, it is not sure if this is possible or not and is, therefore, an Utopian pretension but at least it leads practical geography in a certain direction and allows to work for one of the possible futures: the improvement and search of the excellence.

Furthermore, the object of geographic knowledge is not a meta-narrative but a totality over Gaia, a territory. Nor Geography is a machine to cut into pieces Gaia's skin, nor these pieces are objective realities disconnected from its agents. Territory is an operative concept used to advance in geographic knowledge. It is not the same as space. Conceptually speaking, there are many spaces: the cybernetic, the web space, the Euclidian, the topological, the geodesic,... On the contrary, conceptually talking, there is only one territory, that is, one perspective, the territorial one. Territory is not a geometric abstraction. It parts from the spatial dimension but it is not restricted to it, in fact, it incorporates another important dimension, the temporal one, and relates with the cultural and economical, though the territory has a social essence, as it is there were "natural" and "artificial" objects are synthesised. This synthesis, motivated by social work, is discovered as a geographic configuration through landscape, or "simply what you can see" (Brunet; 1974, 485). This approach has been enriched in the past thirteen years with the worthy contributions of recognised Spanish geographers such as Gil Olcina and Gómez Mendoza (2001), Mata, Gómez Mendoza, Fernández Muñoz (2001), Mata (2001), Ortega Alba (1997), Zoido (2000, 2002), Gómez Mendoza, López Ontiveros, Martínez de Pisón, Ortega Cantero and Quirós Linares (1995), Martínez de Pisón (2000) and Ortega Cantero (1990,2001), among other.

Nevertheless, the geographic knowledge does not reach an end with the visible objects, as it is necessary to understand the vital principles which give life to the geographic objects, contain social processes and which, guided in a functional way, crystallise in shapes and territorial units formed by elements and relationships. That is, the territory is a system, but what kind of system? We may mistake it with other systems, like the biological, for example, but do territories die?. Or with the cybernetic, but do territories have aiming states. Or even with the social system, but the territory is not sand where social conflict is expressed. In any case, territory is a very complicated system. Some scientists, like for example Santos (1986, 25), even talk about a system of structures whose development depends on endogenous and exogenous principles, its corresponding temporal system, economic function and cultural identity or basic organisation schema, associated to a group of rules and values set on a cultural background which has been more or less deformed by power and whose evolution takes place according to learning processes of people who acquire their identity simultaneously. They understand one another and their territory as they learn to participate in it. That is, they grow wit-

hin a family and a country, and these form the predicates which identify, not only the individual people but also the territories, as they include customs, styles of life, social practices and mentalities.

EXERCISING GEOGRAPHY: A USEFUL WAY OF CONTROLLING CHANGE AND DEVELOPING TERRITORIES

Territory includes two big dimensions: "world of life" and "system dimension". These concepts are linked to the definition of society as a "system which needs to satisfy the preservation conditions characteristic of social and cultural worlds of life" (Habermas; 1987, II, 348). The life of a man is expressed in local situations located in a spatial and temporal context or field of action of the participants which is symbolically (culturally) structured and gradually turns diffuse as the distance to is spatial, temporal and social axis of action increases.

Life situations are solved in three orders: the spatial surrounding (house, work, neighbourhood, city, country,...) in which time (personal time and historical period) and the social surrounding (family, friends, local community, State, strange worlds of life) converge and all of it leads to it being "more the situation of action rather than the background of a system" (Habermas; 1987,II,348) the approach which allows to understand the "background of a social and cultural life" reflected spatially in the territory as a changing, action subject. The world of life, furthermore, interacts with nature, focus of eventual conditions, with the aim of increasing the control of an environmental surrounding which is only partially controlled through social work and with its own limits.

If we conceive territory only from the point of view of its performers, then we will ignore the mentioned limits, the latent functions which contribute to its segmentation. Nature itself justifies a functionalist analysis of the territory, as the performers are not by themselves but cooperatively integrated in a social system which assures their survival in relation to nature and other social systems. This comes true in an instant balance of the territorial unit, that is, the basic totality of the geographic evolution. Nevertheless, the functional analysis is not the one used to understand the development of the territory by social engineering, as the latter is based in cybernetics which increase the capacity of control within learning processes towards the strategic action and social and technical planning. In order to capture latent mechanisms of change and the symbolic action of the participants other kind of functionalism of historical character is claimed whose categories in the field of social science are specified by Habermas in his "Theory of the Communicative Action".

THE MAGIC TRIANGLE OF THE TERRITORY

Space is not the same as territory. Territory is an operative, wider concept including different dimensions, because it integrates them, such as the economic, environmental, cultural, organisational or political. These interact among them forming a current and physically settled total unit, as it has been formed as a result of those relations, which sometimes are contradictory or influence one another. The final result is that the territory

appears as a new force to add to the intrinsic forces of all acting components. As an operative concept, territory is equivalent to *civitas*, a space of values: autonomy, security and freedom for its participants. How much territory fits in a given space is variable, as it can increase or decrease depending, in part, on the action of the participants, whose handling of the territory adopts a public political expression guided towards the territorial dimension, in which it is also possible to clearly see an important and recent participation of the geographers López Palomeque (2000), Tarroja, (2002), Cucó, Romero and Farinós (2002), Plaza, Romero and Farinós (2003).

The territory of *civitas* extends along the triangle whose vertexes are formed by the node of production, socialisation and knowledge. Each one groups the performers of the local territory which, at the same time, are grouped in institutions. The local institutions (corporations, associations, trade unions, organisations of employers, local public authorities,...) are the mainstay which support the local territory and the model which allow the incorporation of the different roles of action of the local agents themselves. The above mentioned nodes, production, socialisation and knowledge nodes, are present in all territories. Their power is what varies, especially the relations which hold them together.

The social capital of a local territory is the group of relations between the three nodes of the local system. Depending on the way these relations are organised, the local system is able of developing. Organisation and learning capacity are basic elements for the territorial development. Our concern are the ways in which the relations between the three nodes take place in terms of fluency, frequency, capacity of grasping external innovation, ability and willingness to store it and positively assimilate it and reform their traditional local structures.

This group of relations among institutions forms the social capital of a territory and is one of the main factors of development. Geography, as a social science of the territory, can play a decisive role with its contribution fixing and increasing that development by supplying tools, methods of encouraging and improving environmental interaction processes, as well as local self-organisation and learning processes, by searching excellent management guidelines for territorial projects and by handling innovation as cooperation to reform the guidelines of the local system's traditional organisation. For this reason those who cross borders to dialogue with those from other nodes should be supported, creating thus the essential social capital needed for the territorial development.

A GEOGRAPHER: A SMUGGLER OF KNOWLEDGE ABOUT THE TERRITORY; GEOGRAPHY: A PRACTICAL SCIENCE FOR THE TERRITORY

A geographer is by definition an explorer. He discovers, analyses, investigates, provides evidences, understands, explains, tells and gives advice. He always does that with unknown territories for being far away in the space, for being lands where no member of that society had trodden or simply for being barely known discrete stages because they have not been studied, are recent or are still to happen in the sequence of the evolution process of a living territory which is permanently being re-structured. All countries are in a developing stage. In each stage of this development new problems arouse and there are territories everywhere which are constituent elements of the current world, in which the advances in technology has led to a capacity of control of many phenome-

na which can take place from far away in real time, making us believe that the world is suddenly smaller. In part, this is true, but on the other hand, the local world gains importance. Personalities arise from apparently more and more homogeneous territories which in fact have been self invented, not just as an identity matter, but also to be able to offer something to the network, to the society network (Castells; 1997, I). Here, in short distances, he, who since old times is called geographer for it, finds how to practice his trade as his knowledge about Gea's skin is claimed.

Now that all ends of the earth have been explored, the new border is very near us, it is in the local territory, in the micro-cosmos of global scope. In the current time, vast portions of the economy "evaporate" by being digitalised, but this does not mean that reality can be or should be digitalised. For companies, maximising benefits derived from telecommunications and optimising the capacity of acting globally does not only require technical infrastructures, but also a wide number of resources and social nets which enable them to be connected. The external factors which form the local territory are still needed as space of values, space for the citizenship. This local territory is able of managing achievements and improving and the community which forms it pursues an economically competitive management which is balanced within the environment and socially united. For this task, the geographer works on the border and crosses the frontiers of the poles of the local magic triangle loaded with information to help the dialogue among them and allow them to transform it in a worthy institutional/personal knowledge and so enabling the establishment of common visions which allow to identify widely-shared aims and establish agreements about them. In short, with his task, he contributes to increase the social capital of a territory, the main factor of development.

The world of life is the territory of the geographer. It is traced at the basic scale of social participation, the town, in which the problems of grammar of life appear in which the geographer, like a smuggler of knowledge, supplies methods and information. But he does not do this like the beholder of a technocratic consciousness of higher order which defines in advance practical matters for the world of life as if they were technical matters and then classifies them as being technical, that is, reserved matter for experts. This movement was interpreted by Habermas (1988, 404) as the "counter-illustration".

The golden age of Geography will not materialise from infallible expert technicians, but from smuggler-geographers.

A neutral assessment of science is the result of taking it as an object, as the origin of experimental science and the mechanistic understanding of the world are related to the manufacturing society of the 18th century, which demanded technical rules. These rules treat the relations among men and things as objects as the trading society develops. In short, the system affects science by determining what should be considered empirically correct and, as opposed to the variety of reasons of social practices, preference is given technical reasons. Currently, the opulent society, opulent maybe because of being saturated with technically originated products, also starts to value other aspects of social practices, at the same time as the growing complexity of our world makes technical solutions complicated, which are in fact considered as technocratic if they are not supported by an involved society, participation and consensus among the participants.

Today we know that the subjects of evolution are the territories, the regions. The existence of marginal conditions in them constantly proves the validity of the general theories. The approach to regional changes entails the "immersion in the region, the

interpretation of the entire structure of the system and the solving of the plot which gives personality to a place, but does not exhaust the critical reflection, as it is necessary to clear up the relations between object and subject (...) placing human thought and action within the social and historic totality" (Gregory;1984,234). The wish of mankind of rationally understanding its organisation within space and explaining its differentiation in it justify territorial analysis, both in the most immediate plane, that one which gives shape to the system when it stimulates capitalist possibilities of optimising the use of space, as in other orders which are usually considered less important, but which correctly treated lead to one of the most liable guarantees of a better future. Here we have to include worries of more and more people, like the interest for the particular characteristics of the different communities, the decrease of territorial unbalances respecting distribution of population, the correction of the social and economical unevenness in space, the abandonment of traditional uses of soil, the decrease of uncontrollable natural resources and the defence of the cultural and natural heritage which enrich and strengthen mankind.

These challenges are not managed if they are not sought in a particular place and moment. They will not be managed by an expert in territories or a reform of the system given by the structures which handle a fatefully predicted destiny. They will not be managed if life is disregarded, as man is above all grouped in his territories, each of them with its knowledge and organisation, the elements with which the smuggler-geographer works. This is an option which is being seriously considered as the result of the professional-practical experience in open dialogue with other disciplines and the systematic reflection about it (Rodríguez Gutiérrez and Villeneuve, 2001) in parallel to the search regarding the same subject in social science undertaken by Dohan and Pahre (1993) which the president of the AGE (Méndez, 2003, 41) considers "of special interest" to give Geography a new stance.

THE CORPORATION AND THE OCCUPATION OF THE GEOGRAPHERS

In Spain, the institutional presence of Geography takes places in university through 42 departments, which in the 1990's were the basis for the creation of a specific degree in Geography as an official qualification for geographers. Other guarantees for that institutional presence are: the *Asociación de Geógrafos Españoles* (AGE; Association of Spanish Geographers), founded in 1975 and structured in 14 working groups ³, which also give a good idea of the professional activities of the over two thousand members it has; a dozen of cultural or professional regional or national organisations; and, since 2001, the *Colegio de Geógrafos* (official association of geographers), whose setting up process, as result of a precise strategy, proved corporate intelligence and a new dynamic. That intelligence was motivated by the tremendous difficulties arisen during the process, which required tenacity and anticipation to manage its success, apart from a firm will of cooperation among the most consolidated representation entities, such as the AGE and the new regional organisations, all of them necessary to justify the constitution of a new

³ The AGE is formed by the following working groups: Climatology, Geography Didactics, Regional Studies, Geography of Latin America, Physical Geography, Economic Geography, Population Geography, Rural Geography, Geography of Services, Tourism and Leisure Geography, Urban Geography, Quantitative Methods, GIS and Remote Sensing, History of Geographic Thinking and Local Development.

corporation with real establishment in Spain. But this was not a mere strategy, it was based upon a solid and dynamic situation: the real presence of young geographers who needed a new structure of professional representation, as their needs and activities as geographers were not satisfied at the AGE, as this association skilfully recognised.

The young geographers contributed to define Geography and to make their presence clear in fields in which other geographers had already worked, though in an isolated, discontinuous or scanty way. That is, fields which had been only temporarily or discretely occupied by academic geographers who mostly considered themselves as university teachers and so covered other fields brightly in some occasions. This is how the profile of Geography was defined, as related to education and investigation, to which the spreading of science would have to be added, a genre which is generally considered as minor although it requires a conscientious elaboration and its contents in different media (magazines, daily press, videos) reach a large number of public and so becomes a big field of new consume in our civilisation of contents or "fiction" capitalism (as defined⁴ by Verdú, 2002). The up-date of geographic knowledge for teachers is not attended as it should be, especially for secondary school teachers, although recently a new type of studies of didactic up-date in Geography has been created. Due to its specific character, this up-date may become a bond between the different academic levels in a near future. Geographic teaching to adults has also been scarcely investigated, though the few experiences in adult training dealing with territorial subjects have been a total success⁵.

The following fields have been taken up by young geographers who have fought to join them with remarkable success:

- Geographic information technologies. Geographers operate with them mainly as creators and administrators of geographic information tools adapted to different territorial problems or activities, such as cartography, management of territorial observatories, which deal with contents indicators in significant data bases or image interpretation and remote-sensing, carried out by private consulting companies and, in a smaller scale, by the public administration.

- Studies related to physical geography, natural resources and environment are other fields which concentrate the permanent dedication of professional geographers. This is considered for diagnosis and environmental management, as well as for environmental impact studies and the management of protected areas, using a local working scale. The Local Agenda 21 is a good example for it. Its participative methodology and aim of local development make the maintenance of its technical secretaries a task where geographers work with pleasure. Equally, the management task, understood as a complex stage when carrying out the project, occupies more and more people with an up-dated geographical knowledge, able of dialoguing with other professionals and incorporating new useful tools. In this case, I am referring to the elaboration and management of civil protection plans, urban safety and diminishment of natural disasters.

- The territorial analysis of population and demography have been a traditional field of action of geographers. Nowadays, the competence of sociologists and political scien-

⁴ And would follow the production and consume capitalism.

⁵ As proved in the courses "Geography of Asturias" carried out by the CeCodet de la Universidad de Oviedo for pre-retired workers of mining industry, or in workshops done about territorial matters by the same institute within its MDL (Master de Desarrollo Local) with pre-retired people from different economic sectors.

tists has reduced their activity, which, without doubt, may be increased if they manage to let people understand the importance of strategic guarding centres of the territory, such as the territorial resource centres ⁶ whose contents are taken from some of the fields here mentioned. The task of these is, among other, to anticipate re-structuring tendencies in the territories. On the other hand, the acceptance of the broad sense of the concept of territorial governance (Williamson 1985) and its association with geographers (Rodríguez Gutiérrez, 2004) make the participation of geographers in the elaboration, planning, monitoring and evaluation of public policies and the provision of services necessary. This reinforces and allows the renewal of the analysis of impacts in the population using traditional tools and methods.

- Regional studies and analysis become increasingly important both in large and small scales. They are related to diffusion, local and regional development and to the strategic needs of companies and territories. Work in planning and management of territorial strategies is a specially interesting field which since its beginning has occupied geographers. The world of the logos and brand names is also increasingly important, as well as the visualisation of the territorial motto, "geomarketing" or the creation of a territorial brand. The protection of rights of these brands leads to a growing field for geographers, a creative and complex field where they can prove their knowledge about the local territory and general dynamics. Related to this, landscape architecture arises, an activity which is very much related to the appreciation of landscape. Its definition and, therefore, the setting of a landscape brand, evidently related to tourist promotion strategies, for adding value, and, in general, to strategies to improve the quality of the environment, both in rural and urban environments, where innovating concepts which fixed a geographic sense to the concept of protected landscapes, like rural parks.

It is in the fields of territorial organisation and urbanism and local/territorial development where more geographers are actively occupied, in responsibility posts of political management of the regional governments and big cities, in technical posts at the public administration, as freelance professionals, employers or employees of consulting companies or technicians with specific training hired by the administrations or certain institutions.

- Territorial organisation is a competence which is recognised in the Spanish Constitution of 1978 given to the autonomous communities. Many geographers from a generation which almost during 20 years took public management responsibilities had a very important role elaborating and applying the regulating laws and rules regarding this subject which the autonomous communities started to create in 1983. Nowadays, the presence of geographers working as such in executive posts is less important, though they are still present in high posts at general directions of territorial organisation and urbanism in some autonomous communities, like, for example, Navarra or Asturias, where they are also present in public societies of the branch. The European Territorial Strategy, as framework for territorial organisation sets challenges and deficiencies of territorial organisation as a discipline. The social European performers report among the deficiencies the frequent technocracy in policies for territorial organisation, even though they influence and involve other policies, such as employment and regulation of pro-

⁶ Note the concept of the university institute CeCodet de la Universidad de Oviedo, which operates as a resource centre for territorial development through its tasks: explorer, antenna, archive, agora, educator.

ductive activities, for which they have power of negotiation, which is nevertheless often ignored when applying the methodologies for the organisation of the territory. The consequence is the claim for more comprehensive actions and the reinforcement of cooperation as an essential dimension of the discipline. This would favour the participation of geographers.

Urbanism has been a field of Architect and Engineer technicians since old times. They used to sign the projects as directors responsible for them leaving other meaningful tasks, but not so eminent, to geographers, so the *status quo* was kept by the powerful professional associations of Architects and Engineers. In 1995 an important episode took place which changed this situation. Different circumstances led a geographer to the head of a team in charge of a general plan of urban organisation, who, in 1995, supported by all political parties in the municipal corporation, submitted the local government the ruling project ⁷ signed by him as director. This caused the reaction of the professional association of architects, which brought a lawsuit and asked for the nullity of the plan claiming that the director of the plan was not qualified as a competent professional. After multiple trials, the matter reached the Supreme Court who passed sentence in December 2002 rejecting the demand. It was denied that architects have the exclusive competence in the matter and admitted that of geographers. The jurisprudence opened by the maximum judicial organ was reinforced by the ample considerations made by the judge, which definitely enables the competence of geographers in the urban planning field. On the other hand, the concept of urban planning is progressively acquiring a territorial approach, for which geographic knowledge is more necessary and convenient, as the plan ceases to be called of urban organisation and is simply denominated plan of organisation, which, of course, is clearly territorial.

- Local development was one of the professional tendencies most occupied by geographers. In the 1980's there is a big concern to re-organise all town councils in Spain. This is also the time of the most important stage of rationalisation of industry, whose impact upon local communities is significant and immediate. Through the recently established democratic town councils the local communities start to guide the reorganisation of the local territory. At first, this was done intuitively, according to a basic will of agreement, but, slowly, with the support of some European Commission programmes (for example, the ILE), the professional component of local intervention increases. This is how the figure of the Local Development Agent (ADL, *Agente de Desarrollo Local*) is created, to which we have to add the progressive incorporation of graduates without a specific training to carry out tasks which are not well defined within a diffuse professional profile. Barcelona and Gijón are cities where, during the second half of the 1980's, in connection with a strategic plan, municipal structures of local development are created. In the last case, the training of the technicians in charge of these tasks is left to geographers at the *Universidad de Oviedo*, who, at the beginning of the 1990's, manage to start the 1st University Master of Local Development in Spain, something new in Europe, too. This initiative is soon followed by geographers in other universities. The result is very interesting, as, without denying the multi-disciplinary origin of the graduates who

⁷ These were the Subsidiary Rules for Municipal Planning of Lena (Asturias), approved in 1995 with the unanimous support of all corporation, signed by Dr. F.Rodríguez Gutiérrez.

⁸ 2nd edition of the MDL of the Universidad de Oviedo, 1995-97

participate, during almost two years (in some occasions the master has had 91 credits)⁸ the students follow a geographic programme aiming the local intervention and defining local development as a geographic application. The contribution of the Leader Programmes has also decisively contributed to manage this, as they are a public policy experience centred in the territory with which it is attempted to manage some capacity of control upon the process of territorial reorganisation in certain territories which are mainly rural through the shared strategic management of public funding. This is a different option to the one represented by traditional agricultural policies which has proved to be effective and which requires a new type of professional who is able to handle it in practice with guarantee; its training requirements are fulfilled by geographers who have a wide, up-dated orientation. It attends problems in the management of territorial action projects and, furthermore, modifies the traditional approach of university studies of Geography, but, at the same time, recovers its integrating or territorial character. This dimension is attended in different matters, such as European employment policies (organised in the process called Luxembourg process, with a fifth mainstay being the territory, present in the four other ones explicitly defined), the "European Territorial Strategy" of 1999, the "Executive principles for a sustainable territorial development of the European continent" of 2000, or the reform of the "common agricultural policy" and the promotion of rural development.

Therefore, when a society points towards the territory, there is in it a professional corporation with an ancient and old fashioned tradition with experience, methods, tools and ideas to try to solve and support territorial reorganisation processes from the point of view of the general sustainable interest, matter which, since long, concerns Spanish Geography.

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THE COLLEGE OF GEOGRAPHERS OF SPAIN: AN INSTITUTION FOR PROMOTING THE SOCIAL UTILITY OF GEOGRAPHY AS A PROFESSION

ÀLEX TARROJA ¹

1. THE FOUNDING OF THE COLLEGE OF GEOGRAPHERS OF SPAIN (COLEGIO DE GEÓGRAFOS)

Beginnings of Geography as a profession, founding of regional professional associations, and the initiative to create the College.

The goal of creating a professional college dates from 1975, when the Congress of Spanish Geographers at Oviedo weighed the possibility of creating a professional organization. However, this possibility was cast aside and the Association of Spanish Geographers (Asociación de Geógrafos Españoles-AGE), primarily academic in character, was created instead.

The democratization of local authorities in 1979, and the founding of Autonomous Communities in 1980, brought on Geography's underlying push to go beyond the education system. In just a few years, a significant number of geographers went to work in city councils, provincial legislatures, and autonomous communities, as well as private enterprises or as freelance consultants. The practical applications of Geography spread quickly in areas such as: cartography, GIS, risk prevention, environment, urban studies, territorial planning, government investment and services, demography, and territorial administrative boundaries.²

¹ This article was written with the invaluable assistance of David Mongil.

² The Association of Professional Geographers of Catalonia (Associació de Geògrafs Professionals de Catalunya-AGPC) did a detailed study of geographers' fields of research. The situation found at the end of the 1980s was published in the paper "Geografia: una ciència antiga, una professió nova", APGC, 1991, 24pp; the situation found at the end of the 1990s was covered in "Sortides professionals de la geografia", in the AGPC *Bulleti*, no. 37, November 1999, pp. 5-12, which is found at www.agpc.com -, by Àlex Tarroja, Olga Mauri, et. al.

The birth of Geography's new professional orientation, as well as interests and problems specific to the profession, brought about the creation of the *Associació de Geògrafs Professionals de Catalunya* (AGPC) in 1988.³ The AGPC was the first geographical association in Spain that was specifically oriented towards those graduates who practice their profession in government (*administración pública*) and private enterprises. Among its goals were: the promotion and publishing of geographers' activities in applied fields, the exchange of knowledge and experience, as well as the representation and advancement of their professional interests. Having similar goals, the Association of Professional Geographers of Andalusia (*Asociación de Geógrafos Profesionales de Andalucía-AGPA*) was formed in 1996, while other such regionally-based associations sprung up later.

The creation of a degree (*titulación*) specific to Geography⁴, as well as the foresight of its first graduates (*licenciados*) in 1996, brought new hope that a professional college might be created. Therefore, AGE's assembly, meeting in Seville in 1993, decided to create an *ad hoc* committee to found the College. In its 1994 report, the committee recognized the great number of professional geographers, the emergence of the Geography degree, and that there was a movement towards professional affiliation, and saw that the time was right to create the College. It also established the ground rules and methodology to establish it⁵.

*The committees' work in promoting and managing the passage of the law establishing the College.*⁶

In February 1995, a Steering Committee was fostered by the AGE with help from: the Spanish Royal Geographic Society (*Real Sociedad Geográfica*), Association of Professional Geographers of Catalonia (*Associació de Geògrafs Professionals de Catalunya -AGPC*), Association of Geographers of Galicia (*Asociación de Geógrafos de Galicia*), Association of Geographers of the Balearic Islands (*Associació de Geògrafs de les Illes Balears*), Association of Geographers of Asturias (*Asociación de Geógrafos de Asturias-GEA*), the Association of Geographers of the Canary Islands (*Asociación de Geógrafos de Canarias-GAIA*). The Steering Committee undertook the task of overseeing the goals and mission for the College's founding, in consultation with Spanish geographical organizations of the time.

Once a model for the College could be agreed upon, the Steering Committee wrote a draft of the Law. In 1995, several different groups in parliament were contacted with the goal of soliciting their support for a legislative initiative to found the College of

³ The goals and the history of the AGPC have been adequately addressed by Elisabet Sau at the association's website www.agpc.com ; Regarding its origins, consult Mateu, X. "Notas sobre la Geografía profesional en Cataluña" in the Boletín of the Association of Spanish Geographers, No. 15-16, pp. 211-219, 1988.

⁴ Until that time Geography was a specialty among the licenciaturas of Geography and History, or Philosophy and Letters.

⁵ An abstract of the report "Documento de objetivos y criterios para la creación del Colegio de Geógrafos" was published in: Boletín of the AGE, No. 19, pp. 133-140, 1994.

⁶ The work of the committees who promoted the College is found in the report "Informe de la Gestora del Colegio de Geógrafos", in the Boletín of the College of Geographers, No. 0, March 2002, pp. 12-14, found on the web at www.geografos.org

Geographers. However, the extant laws on professional colleges, and community directives on free competition, were obstacles to parliamentary decision-making. It was the passage of the Royal Decree-Law 5/1996 "on liberalizing measures regarding land and Professional Colleges" in June of that year established a new and more favorable political-legal framework that overcame the previous situation, and made possible the development of legislative initiatives for creating new professional colleges. This coincided with the matriculation of the first undergraduate Geography degrees (licenciaturas) in June 1996.

In September 1996, the Steering Committee therefore created the Managing Committee of the College of Geographers, into which three new organizations would be incorporated: the Association of Geographers of Castile and Leon (*Asociación de Geógrafos de Castilla y León*), Association of Professional Geographers of Cantabria (*Asociación de Geógrafos Profesionales de Cantabria*), and the Catalanian Geographical Society (*Sociedad Catalana de Geografia*). It was therefore that the Managing Committee was composed of President Florencio Zoido (AGE), Secretary Josefina Gómez Mendoza (AGE), Vice-president Àlex Tarroja (AGPC), Vice-president José Antonio Cañete (AGPA), Treasurer Antoni Peiret (AGP of Castile and Leon), Members Manuel Valenzuela (RSG), Jaume Mateu (AG-Balearic Islands), Fermín Rodríguez (GEA), José León García (GAIA), Rubén Lois (Geographic Society of Galicia), Margarita Barreda (AGP-Cantabria), and María Dolors Garcia Ramon (Catalonian Geographical Society).

The Managing Committee decided during its first meeting to launch again the initiative for establishing the College of Geographers by renewing its parliamentary contacts. Finally, on October 17, 1997, the Board of the Congress of Deputies of Spain agreed to consider three very similar bills, based on a draft written by the provisional Steering Committee, that were forwarded by the Catalanian, Popular, and Socialist blocs in parliament.

Processing by the Congress of Deputies and Senate of the bill to create the College took eighteen months, until it was finally passed by the full Senate on April 14, 1999⁷, with only one abstention and one vote opposing. Finally, Law 16/1999 of May 4, 1999, "On the creation of the College of Geographers" was passed and then published in the government's official bulletin (Boletín Oficial del Estado) on May 5, 1999.

*The law creating the College of Geographers*⁸.

In the law creating the College of Geographers are noted the following aspects:

Scientific developments in Geography are notable: the growing professional demand on the part of degreed geographers, particularly those in government, and their high number of professional affiliations.

⁷ The various parliamentary maneuvers are recounted in "Informe de la Gestora del Colegio de Geógrafos", published by the Boletín of the College, No. 0, March 2002, pp. 12-14, at www.geografos.org and in AGPC-Bulleti, No. 36, May 1999, at www.agpc.com

⁸ Published in the Official Bulletin of the Government "Boletín Oficial del Estado" on May 5, 1999. See www.geografos.org

The College of Geographers is established as a necessary tool for regulating and governing the profession, and to improve its availability to the public, as well as to defend its rights before other university degree programs.

To advance the professional profile of geographers in their specializations: land management, environment, evaluation of socio-territorial processes, geographical information, teaching and research, as well as its cooperation in inter-disciplinary studies.

The College is open to those holding undergraduate degrees in Geography, in Geography and History (Geography division), in Philosophy and Humanities, or holders of advanced degrees having experience in Geography.

The Constituent Assembly of the College

Once the College was created, the Steering Committee drafted provisional Statutes, which were necessary to hold the Constituent Assembly. The draft was presented to the Spanish Ministry of Development in September 1999, although final approval did not come until June 2001⁹ due to comments formulated by the Council of State. Approval for the aforesaid statutes established a time limit of four months for the calling of the Constituent Assembly and the election of the Board of Directors of the College of Geographers.

Finally, on October 20, 2001, the Constituent Assembly of the College of Geographers was held at the Complutense University of Madrid.¹⁰ On that date, some 450 geographers from all over the country had pre-registered in order to elect the incoming Board of Directors. It was therefore that a single list of candidates, made up of members of the organizations that had taken part in the Steering Committee, with the purpose of providing continuity and guaranteeing the representation of the various associations, territories, and professional collectives, regardless of whether they worked in business, government, academia, teaching, private consulting, or whether they were recent graduates looking for work.

As a result of these elections, the first Board of Directors consisted of: President Àlex Tarroja (AGPC), Vice-president José Antonio Cañete (AGPA), Secretary Santiago Fernández (AGE), Treasurer Antoni Peiret (AGP-Castile and Leon), and Members Florencio Zoido (AGE), Gloria Vega (AGPA), Jaume Mateu (AGE-Balearic Islands), Maragarita Barreda (AGP-Cantabria), Robert Casadevall (AGPC), Fermín Rodríguez (GEA), Miguel Febles (GAIA), Javier Gutiérrez (RSG), and Rubén Lois (Geographical Society of Galicia). On the Board are represented eleven geographical associations that had made up the Steering Committee and nine Autonomous Communities. It represents a balance of the different professional sectors of Geography: private enterprise (five members), government (four), and academia (four).

⁹ The order of the Ministry of Development was published in the Boletín Oficial on June 16, 2001, pp. 21.707-21.710. See www.goografos.org

¹⁰ The report of the Constituent Assembly can be seen in the Bulletin of the College of Geographers (Boletín Colegio de Geógrafos), No. 0, May 2002, and at www.goografos.org

2. DEFINING A STRATEGY FOR THE COLLEGE OF GEOGRAPHERS: TO PROMOTE A NEW PROFESSIONAL REALITY FOR GEOGRAPHY

Once the College of Geographers was formed, the defining of strategy and lines of action stemmed from an analysis of Geography's new professional reality in Spain and, particularly, the challenges and opportunities that it faces. The resulting analysis should minimize any limitations defected in order to confront future risks, while it should also try to optimize capabilities for the purpose of maximizing the growth potential of Geography as a profession.¹¹

Without doubt, the very establishment of the College of Geographers remains in itself a reflection of the vitality and evolution of Geography as a profession over the last few years, for example: the growth of geographers in government and private enterprise, the creation of a specific degree program, and the great demand by society for input by geographers. This provides a context of significant opportunities for consolidating the new professional reality of Geography that the College proposes to promote and let known to society at large. Therefore, Geography can avail itself of three opportunities within the next few years:

a) *Society's demand for knowledge and a new culture of territory makes Geography a profession of the future*

By simply looking at the media on a daily basis, there is evidence that territorial issues have gained a special relevance to society. Issues such as: conflicts over natural resources and changes in landscape, natural disasters, immigration, cultural diversity, economic globalization, changes in the urban environment, transport infrastructure, housing, parks, tourism, and development of rural areas, make it obvious knowledge of territorial relationships is indispensable for proposing and applying solutions that could mean real progress towards environmental sustainability and social justice. Society's plea for expertise, interpretation, and policies regarding the earth's surface, puts Geography at the forefront of current events. It is a fact that some of the most critical problems facing society today have a significant territorial component that Geography may be able to answer.

b) *Advancing and promoting Geography as a profession*

Geography is an ancient science, even though it is young as a profession. Geography as a practical profession in Spain, aside from teaching and research, emerged little more than twenty years ago and its insertion into the various branches of government and private enterprises has been quite significant since then during that time. At the same time, the development of the Geography undergraduate licentiate degree (*licenciatura*) has also been important, having appeared now at twenty-six universities.

¹¹ Some of the arguments regarding this are found in Tarroja, Àlex, "La formación del Geógrafo y su inserción profesional", in the 16th Congress of Spanish Geographers: El territorio y su imagen: Ponencias y mesas redondas. Malaga: AGE, 1999. pp. 241-254; also published in AGPC-Bulleti, No. 38, March 2000, pp. 5-10, available at www.agpc.com

c) *Opportunities and great demand for interdisciplinary work*¹².

Professional opportunities currently available to graduates in Geography are specially vast, diverse, and growing in government, but in business as well. Therefore, geographers carry on their work in areas and activities that are growing in social acceptance and importance, such as: municipal/rural/regional economic and social development; land planning and management; landscape and cities, integrating environmental, social, urban, infrastructural, and cultural issues; evaluation and management of natural resources and spaces from the standpoint of sustainability; new territorial information technology (cartography, geographical information systems, etc.); spreading of territorial culture through teaching, publications, tourism, etc. All of these fields of action are characterized by two factors: growing demands by society, and interdisciplinary relationships. The latter of the two has been especially favorable to the development of Geography for two reasons: on one hand, these activities do not exclude any profession but require interdisciplinary teams; on the other hand, geographers are especially well prepared to cooperate with other professionals, while their ability for integrative problem-solving allows them to communicate well with other professions.

Nonetheless, in view of these opportunities, there are some obstacles to developing Geography as a profession in Spain. The various available analyses and studies of these obstacles identify three challenges that the College must face in order to maximize the aforementioned opportunities:

a) *Society is not aware of Geography's new professional reality*

Geography in Spain is not well-known by the majority of society. Most people all too frequently associate it with rote learning of places and countries or cartography.¹³ The work done by many geographers, who labor in government, private enterprises, or teaching, is transforming this image in certain professional and social circles. Nevertheless, many potential employers are still uninformed about geographers' expertise and abilities, as they are also about the fields where geographers exercise their profession. In sum, the labor market is not aware of the true capabilities of geography degree holders.

For the purpose of gradually ameliorating this situation, the College made a priority of informing society about Geography's new professional reality, so that the work of geographers might be readily recognized. It is thereby that society's demands can be translated into job opportunities.

¹² On this point, see the article on geographers' professional profile in this same volume.

¹³ Spain is not alone in this. "Rediscovering Geography", a 1997 report by the US National Research Council, affirmed that "For the majority of Americans, Geography means names of places. Concern over ignorance of geography is generally focused on the inability of people to locate cities, countries, and rivers on a map, and geographical training is considered to be the collecting of information about remote places in the world. From this perspective, for some it may be a surprise that Geography has a great deal to say about many of the critical issues facing mankind at the end of the 20th century."

b) *The disconnection between training and the needs of the profession*

By observing professionals in the field, and conducting studies at various universities on the employability of Geography licentiates, it was concluded that the training model used in academia for geographers is not well adapted to the needs of the profession in practice:¹⁴ professional profiles are poorly defined, training is scarcely answers some demands made by society, universities are poorly informed about the job market, and the participation by working professionals in evaluation and planning at the universities is minimal. Therefore, society's demands for information and interpretation of territory are growing at a much faster than academia's capacity for training geographers.

It is then that the College proposes to serve as a place for higher education and the world of working professionals to encounter each other, in order to improve the linkage between training and practice and make geographers competitive in the job market. This would be whether by reviewing the contents and capabilities of the Geography licentiate program or through continuing education for specialization and updates.

c) *Insufficient cohesion among members of the profession, and the lack of structures supporting the advance of the profession*

A third challenge is the relationship of the profession with the apparatus of the state. Until the College was founded, professional associations operated on a regional scale and their levels of membership had not reached the critical mass necessary for organizing or for exerting influence. On the other hand, associations that belonged to the area of government, such as the AGE, were mostly academic and clearly oriented towards the universities. One or the other resulted in a lack of services intended specifically to assist geographers in exercising their profession and bring young graduates into the profession. The lack of support services hindered not only the insertion of young graduates into the job market, but also the stability and competitiveness of professional geographers.

A strategy for promoting Geography as a profession

Based on the preceding analysis of opportunities and challenges, the College of Geographers established the promotion of the new professional reality of Geography as a priority. This proposal stems from a conviction that the College should not be understood as serving merely for the collective defense of the profession, but as an institution that promotes the usefulness of and interest in Geography on the part of society, while also enabling geographers to respond to the needs of modern society.

The College is poised, therefore, to educate society in general and employers in particular about geographers' capabilities as professionals in areas of great societal demand. The College is also poised to improve licentiates' access to job opportunities through better coordination of training with the practical needs of the profession, as well as through job placement and retention.

¹⁴ These are some of the conclusions reached at the "Meeting in Granada on courses of study for the licentiate", a meeting of department chairmen convened by the AGE at Granada in December 1998 (document published under the title "Reunión sobre planes de Estudio en Granada" in *Noticias Geográficas*, No. 22, April 1999, pp. 3-6), and in the report on job placement for Geography licentiates, Autonomous University of Barcelona, done by the Observer of Graduates of the Social Council of that university in 2000.

In sum, the preceding diagnosis pointed towards four strategic lines of action:

a) *Promoting the profession and the College to the public*

The paradox of posed by society's limited knowledge and appreciation of Geography in the face of growing demand for geographical knowledge called for a strategy of publicly promoting the profession's new reality and converting this demand into job opportunities.

b) *Focus on improving the relationship between academic training and professional practice*

The disconnection in the relationship between academic training and the needs of the profession demanded that the College serves as a place where meetings and dialogue can take place between academia, employers, professionals, and young licentiates in order to adjust training to job opportunities.

c) *Services in support of professional activity*

The need for a structure in support of job placement and the exercise of the profession determined that the College would focus on value-added services in response to the profession's specific needs as well as on quality and innovation. This was also true for structures facilitating job placement for young licentiates.

d) *Promoting networks among professional geographers*

The collective weakness of the body of professional geographers in the country, due to the profession's relative youth, demanded networks for cooperation between professionals for exchanging findings and experience in order to expand the influence of the group.

3. THE COLLEGE'S PLAN OF ACTION: GOALS AND FIRST ACHIEVEMENTS

The College of Geographers began operation in January 2002. In March 2004, it had 958 members. At that time, the communities having the largest number of members were: Catalonia (224), Andalusia (145), Community of Valencia (97), Cantabria (94), Madrid (74), Balearic Islands (72), Castile and Leon (56), Galicia (51), Canary Islands (49), and Asturias (31).

In this section are briefly presented the goals¹⁵ and lines of action¹⁶ defined by the Board of Directors at the beginning of the project, as well as some of the initiatives completed in 2002 and 2003.¹⁷

¹⁵ The goals for 2002-2004 are published in Tarroja, A. "Un proyecto de futuro para el Colegio de Geógrafos" Boletín of the College of Geographers, No. 0, pp. 1-4, March 2002. www.geografos.org

¹⁶ For more details, see "Plan de mandato 2002-2004: actuaciones a desarrollar", Boletín of the College of Geographers, No. 0, pp. 5-9, March 2002. www.geografos.org

¹⁷ Initiatives undertaken in 2002 and 2003 can be seen in the activities report published annually by the College, and at www.geografos.org

Based on the four lines of strategy mentioned above, the College took action in five areas:

- Services to the profession
- Relating academic training to the practical exercise of the profession
- Networks for cooperation and communication
- Educating the public about the College and the profession
- Creating a de-centralized organizational structure

Offering value-added services in support of geographers' professional activities

One of the main goals of the College is to offer a group of services specifically in support of geographers' professional activities in their various fields. However, special attention would be paid to those in small businesses and in private practice. These services should accomplish two goals: 1) improvement of working conditions; 2) foster quality, excellence and innovation in geographic research, studies and projects. Among these services there are some that will interest geographers as a whole, but other should be specifically designed for groups with special needs and challenges.

Among the services offered by the College in its first two years are:

- *Advocating professional geographers' qualifications*: the College has taken upon itself, or has been requested by members, eighty cases in defense of geographers' professional qualifications for accessing certain jobs or public bids whose guidelines did not admit geographers. The majority of these cases involved the fields of local development and environment. The actions taken have ranged from letters of protest to administrative actions or court proceedings.

- *Reports on geographers' fields of activity*: Background files are kept on geographers' professional qualifications in various fields of activity, from the point of view of training, specialized geographical post-graduate programs, and activities currently undertaken by geographers working in these fields. The files are fundamental in informing employers of geographers' qualifications, as well as in defending geographers in cases of job discrimination. Reports on local development and environment have been undertaken.

- *Approval of studies, plans, and projects*: Approval signifies administrative recognition of professional qualifications for undertaking works, as well as the integrity and oversight of research, plans, or projects. It is an administrative control measure granted by the College at members' request when their work must be presented to Administration as part of a report, approval, adjudication, concession, authorization, permit, or license, or when the work must be presented to third parties unrelated job-wise or associated with the member author or student in question. Approval is given if the work in question meets the following guidelines: a) it was formulated by a member geographer; b) adheres to geographers' professional standards; c) its documentation meets the formal standards for integrity and oversight.

- *Legal services*: Advice and counsel on legal matters will be provided to the College and in response to members in response to questions about their professional activities, qualifications and responsibilities.

- *Counseling taxation and labor issues*: Personalized advice via email on contractual matters and taxation to members of the profession.

- *Resource library for freelance geographers and new businesses*: This document is intended for those wishing to establish small businesses, work freelance, or hire personnel. The resource library conducts studies and compares the various kinds of business arrangements and contractual formulas, as well as regulations and taxation, in order to orient geographers in setting up a business or in hiring personnel.

- *Financial services agreement*: Cooperative agreement with a bank specializing in professionals and small businesses that would provide diverse and beneficial financial products and services (such as: purchase of offices and remodeling, business credit, equipment leasing, insurance) to members.

- *Tables of suggested rates of compensation*: One of the membership's foremost demands (especially among private contractors) has been for compensation rate guidelines for the profession. A table has been made of suggested compensation that establishes basic criteria for professionals and potential clients in order to prepare project budgets.

- *Job placement for young licentiates*: Transmission of job offerings via electronic mail. Agreements for funding professional internships. Several local delegations are creating job-banks as a liaison between job offerings and job seekers, as well as personalized job orientation for young licentiates.

- *Free email address*: All members are offered a free email address at the www.geografos.org domain.

The connection between training and the needs of profession practice

The training provided at the College is in two areas: a) continuing education for specializing and updating knowledge to conform to the needs, demands, and job profiles of the profession; b) initiatives fostering better connection between the university system and the needs of professional practice.

Continuing education is framed within a social context in which the demand for specialization and techniques is developing quickly. Therefore, continuing education is absolutely necessary, whether for specialization, updating professional knowledge, or adapting to changes in legislation and demands of the job. The knowledge that professionals have of these changes, which comes from experience on the job, places the College in an optimum position for promoting these training initiatives.

- *Training opportunities for members*: Principally through its regional delegations, and in several cities, the College has given courses:

- Techniques and applications of geographical information systems.
- New legislation on urban areas, mobility, and the environment.
- Workshops for young geographers on job practices in Territorial management and development, Local development, and Landscape.
- Courses for private contractors or professionals employed in administration regarding: civic participation, evaluation of territorial public policy, management of natural areas, and self-employment.
- Training in Cartography, Urban Studies and Planning.

- *The College's assistance in post-graduate courses*: The College assists the already-existing post-graduate programs with two goals in mind: a) facilitating members' access to specialized training; and b) promoting the incorporation of experience acquired on the job into training curricula. The cooperative agreements signed with some ten post-graduate programs cover areas ranging from professional course design and teaching to obtaining discounts for members.

- *Catalog of post-graduate courses*: In order to contribute to members' continuing education and re-training, the College annually publishes a catalog of post-graduate program offerings in the various fields where geographers work: Territory Planning and Urban Studies, Environment and sustainability, Local development and territorial strategies, Geographical Information Systems, and Cartography.

One of the areas where cooperation among the various collectives of geographers is most necessary is in linking the university education system with societal demands and professional practice. Cooperation between academia, professional, employers, and young graduates is absolutely necessary for promoting Geography in all its forms. Therefore, the College offers itself as a meeting place. This dialogue incorporates several factors such as: the definition of job profiles by society; dialogue on study plans; coordinating post-graduate courses in continuing education and specializations; jobs for licenciates through placement services; practicum programs; business-academia agreements; relationships with young geographers, etc.

- *Committee for liaison between the College and the Association of Geographers of Spain (AGE)*. This was established in order to coordinate shared initiatives and activities towards promoting Geography and linking the educational system with the practical needs of the profession.

- *Report on training for professional practice*. Developed by the above committee for the purpose of gaining knowledge about the new demands society places upon geographers that are scarcely identified by the educational system, and to suggest improvements in university training. The report on the analysis of professional job profiles, study plans, evaluation reports, and a broad qualitative survey of researchers, teaching faculty, and professionals.

- *Participation in the white book on adapting the Geography and Territorial Management degree to the European system of higher education*. The better adapting of university training to society's demands, and making graduates employable, are among the principal proposals of the process of the convergence in Europe of higher education. The Geography degree program has the opportunity of being among the first in Spain to begin adapting to this process. The College-AGE Liaison committee met in June 2003 in which it was agreed to ask the Spanish National Agency for Quality Evaluation and Accreditation (ANECA) to make the Geography degree conform to the European Higher Learning Area and to draft a white book on the Geography and Territorial Management degree. The College joined with the project's executive committee and participated actively in drafting the white book ¹⁸. Besides its work on the executive committee, the College

¹⁸ The final document *Libro blanco para el diseño del título de grado Geografía y ordenación del territorio*, 420 pp., March 2004, can be seen on the AGE's webpage: <http://www.ieg.csic.es/age/> An abstract is available in Zoido, F., "El libro blanco sobre el título de grado geografía y ordenación del territorio", *Boletín of the College of Geographers*. No. 5, May 2004, pp.3-5, www.geografos.org

provided diverse documents and specific proposals concerning geographical knowledge in professional practice and training requirements:

- Proposal for overseeing the evaluation of adapting the degree to social demands and the employability of graduates.
- Report on geographer's job activities and members' places of work.
- Proposal for professional job profiles.
- Study of methodological, technical, and instrumental capabilities and skills used in job practice.
- Debate over the inter-relationship between Geography and Territorial Management.

Networking among geographers

Another priority of the College in these first years is the promotion of networks, and the exchange of information and experiences, between geographers in the practice of their profession. Concretely, this means augmenting geographers' collective influence, as well as increasing the quantity and quality, intensity and complexity of the relationships among ourselves while promoting involvement. Therefore, the Board has joined proximal networks (based on territorial boundaries) with virtual networks, taking advantage of the newest technologies (especially internet) leading to concepts such as virtual communities and the economies of distance on the web. Without doubt, promoting these networks is a complex process that requires a settling-out, as well as achievable short-term projects. Among these are several actions undertaken by the Board:

- *Web page*: Its web site (www.geografos.org) is a key element of the College. It is a mean of communication that facilitates active participation and members' access to the activities and services of the College. Given how widespread the members of the College are, it was thought important to get the most out of working on-line and the "economies of distance" provided by new technologies to make a web page into a mean of internal communication between members of the College. Also, the web page that provides information on the activities, services, projects, and everything of interest related to Geography, intends to soon become the reference point for resources and documentation in support of the profession; for example, services, activities and reports by the College, a normative library, and resources. The various regional delegations of the College have their own web pages on the College's domain.

- *Electronic forum*: List of electronic mail for facilitating communication among members. It is a chat room for informal discussion on debates, technical consultations, announcements of training and meetings, presentation of publications and web pages of interest, as well as for circulating job announcements. It is also a means for immediate updates about the College. The delegations of Andalusia have their own service providing updates on activities via electronic mail.

- *The Bulletin of the College*: The *Boletín del Colegio de Geógrafos* keeps the College's membership periodically informed on the services and activities of the College. Each edition has a thousand copies distributed to the membership, promoting the College's activities. The Boletín includes: sections on the College's latest activities and services, information about current events in Geography, interviews with renowned

geographers, and editorials on issues of current interest, while providing a forum for other geographical associations. The delegation of Andalusia publishes its own journal (*Andalucía Geográfica*) and an electronic bulletin, while the delegation of Catalonia also publishes its own journal.

- *Guide to Good Practices in Geography*: Its goal is to disclose projects, experiences, plans, public policy or studies that are innovative and/or are of special interest to the various fields of applied geography (especially those that are emerging with important professional expectations or employment prospects), as well as serving as a reference in the practice of the profession. The first two issues dealt with landscape, territorial management, and local development. The guide to good practices is published in a print form and is also available at the College's website.

- *Professional Directory*: Drawn up as the result of a survey of the membership, it includes background information on the education, place of work, specialization, and professional career of the members. The directory is a basic tool for furthering the knowledge and dissemination of the new reality of the profession, as well as for promoting networks for cooperation and exchange between professionals with common interests.

- *Geographers' job profile*:¹⁹ A key element in the initial phase of the College is the knowledge of geographers' reality and job profiles. Information obtained from the Directory has provided better knowledge of the new professional reality among geographers. On one hand, five basic job profiles have emerged: environment, urban and territorial planning/management, regional development, demography and social studies, geographical information technology, education and dissemination of territorial culture. On the other, there are three areas of detailed knowledge where geographers work: public administration, private enterprise, and the teaching system.

- *Cooperation with other geographical associations*: The College, by its nature and for having come as the result of collaboration between several different state geographical associations, represents a unique opportunity for dialogue and cooperation between the various groups of geographers – whether these are based professionally (universities, public administration, business, young licenciates) or by the region where they work. The College, therefore, has established several ways of cooperating continually with the Association of Spanish Geographers (AGE), the Forum of Young Geographers' Associations (Foro de Asociaciones de Jóvenes Geógrafos), and the various regional professional and cultural associations.

- *Working groups*: The College has established networks for cooperation and exchange between geographers having common interests. As of now, working groups have been created for the following: university fellows, landscape and territorial management of Catalonia, and secondary-school educators.

Promoting the College and the profession in society

The College has the strategic goal of improving society's recognition of the utility and relevance of Geography while promoting Geography as a profession. The College recognizes the following: the fact that there is a growing demand in society for expertise in territorial management (as shown by the continued presence of territorial issues in the

¹⁹ A summary of this information is found in this volume and at www.geografos.org

media), and that Geography can provide socially appropriate and useful tools for analysis and action. In other words, there is a demand in society for the expertise, concepts, and methods of Geography; however, this has not meant further recognition and job opportunities for geographers, as our profession remains unknown. Also, the context is especially propitious, as the demand for a new culture of a sustainable environment and society coincides with the values of the profession and the majority of geographers. Nevertheless, a large portion of public opinion and employers do not associate the demand for expertise in territorial management with Geography's contributions as a science and a profession. It is therefore that a mid-term strategy emerged for providing the public with information about Geography's new reality, as well as its social utility and relevance, in order to achieve greater social recognition and employment. The College has begun moving towards this goal by way of several lines of action, which are specifically for updating a number of sectors in society about Geography.

- *Geographers' involvement in government committees*: A fundamental factor in the recognition of the profession is the normalized participation in organizations in government (*administración pública*). The presence of institutions on government committees and studies connotes the normalization of relations with government and recognition of the profession, while also allowing geographers and other professionals to take part in decision-making. Therefore, the College has gone before the national, autonomous, and local levels of government, in order to involve geographers in diverse advisory councils, committees, and studies of a territorial nature. In its first two years, the College has been integrated into 20 institutions; most of these are related to: regional administration, urban issues, territorial planning, environment, forest management, infrastructure, mobility, territorial boundaries, rural development, tourism, etc.

- *Civic action*: One of the fundamental tasks of a professional College is to develop civic action, providing expert knowledge, opinion, and thinking on current issues and debates in society. Therefore, the College has made civic action and involvement a priority, for the dual purpose of introducing geographers' socio-environmental perspective to public opinion and debate, while also making known geographers' social utility and professional capabilities and provides further knowledge to the public as a whole. This action is carried out through the following activities:

- Reports and testimony in the drafting of laws, plans, and projects, e.g.: legislation on urban issues, environment and forests, territorial plans, etc.
- Cooperation with other professional organization in public debates, statements, and manifestos in the area of environmental and territorial policy.
- Contributions to participative processes proposed by government agencies.

- *Participation in workshops, debates, and public events*: In order to expose the public to Geography as much as possible, special activities for disseminating information to the public were thought necessary. Therefore, the College has organized, with the help of other institutions, a dozen different workshops, seminars, and public events concerning issues such as: urban transformation, landscape and territorial management, tourism, local development, territorial planning, cultural and natural heritage, etc. It also participated in activities for disseminating information to the public in general.

- *Involvement of Geography and geography in the media*: A key aspect in letting the

public know about social utility of Geography is by involving the discipline and professionals with the media. The College has begun offering its opinion as an institution (or of individuals, as geographers) on current events and issues of public interest. It has followed three lines of action towards garnering media attention to Geography:

- Follow press coverage of geographers: denoting a growing involvement of geographers as a group, not only in current events, but also as professionals who lead projects in the public interest.

- Coverage and involvement of the College in the regional press.

- Action taken in several cases of discrimination or disrespect for the profession in a number of media outlets. An example is the inclusion of the geography degree in the supplement on university degrees published annually by "El Mundo" newspaper.

- *Committees of Experts*: Several territorial delegations have formed expert advisory committees in order to get continuing coverage of the profession by the media, and to weigh in on reports and studies.

- *Broadcasting knowledge about geographers' activities*: In just two years, there have been given over seventy presentations about the College, and on opportunities in the profession, at universities offering Geography degree programs. There were also a number of meetings where the College presented itself before ranking government officials and leaders of other professional colleges.

Organizational structure and territorial de-centralization

To the above-mentioned four lines of action is added a fifth, albeit of an internal or operational nature which would create and solidify an organizational structure for the College. When it was instituted in October 2001, the College had neither funds, nor personnel, nor an organizational structure; since then, it has had to define and acquire these while developing goals and priorities in accord with its resources. The College's organizational structure is based on three principles: a) a progressive transition from the model of "voluntarism", which is a characteristic of earlier geographical associations, to a more professional model; b) by working on the internet, it can take advantage of the de-centralization afforded by new information technologies, e.g.: economics of distance, virtual communities, etc; c) the stake in territorial decentralization through delegations in the Autonomous Communities in order to keep track of the membership and the reality found in each community. Finally, a professional organizational model was chosen that was decentralized and structured as a network, in keeping with available resources.

Organizational structure: The evolution of the College's activities combines the Board members' "voluntarism", and their outsourcing of services and hiring staff, with a proposal to moving everyday operations towards a professionalized structure, while reserving the responsibilities of defining and coordinating projects, and representation, for the Board of Directors. In early 2004, the College had three outside professionals providing: a) legal advice to the Board and College members; b) advice on taxation and accounting; c) website design and maintenance. It also had three part-time technicians offering support to the Board in developing: reports and projects, internal and external communications, event organization, management and membership relations.

Territorial de-centralization and networking

The need for providing services to the membership, improving the realities and limitations of the profession in every community, and the scattering of the members, made necessary to a highly de-centralized organizational model for the College. It was therefore that among the goals set by the Board was to build bases for a structure that would stem from the various Autonomous Communities, each of which would coordinate very closely in facilitating dialogue and the use of resources. A factor in the success of this de-centralized model was the College's incorporation of the energies and structures provided by professional associations in various communities which had been actively involved in creating the College. These provided the social capital, know-how, work models, structure and networks of fourteen years' experience in professional associations. This de-centralized model was accompanied by a clear commitment towards an organization framework and management based on networking, taking advantage of the new technologies.

A substantial part of the services and activities that were preferably developed by territorial delegations are, e.g.: a large part of training activities, job placement, civic action, regional-local governmental relations, and media relations. However, the basic structure of the College is focused on tasks such as: internal management, advocacy of the profession, services to professionals, adding to the resource library, reports on good practices, communications (web and bulletins), relations with academia, etc.

Therefore, one of the priorities of the College's first two years has been the forming of territorial delegations.²⁰ In early 2004, five delegations were formed, while a sixth was in the process of being formed:

- Cantabria (October 2002; 94 members)
- Catalonia (October 2002, 224 members)
- Andalusia (November 2002; 145 members)
- Community of Valencia (December 2003; 97 members)
- Balearic Islands (March 2004; 72 members)
- Galicia (due in September 2004; 51 members)

The College is also developing new territorial delegations in Castile and Leon, as well as Asturias.

This combination of colleagues' proximity to each other with virtual networks also envisions a model of a College that will promote active involvement on the part of all geographers in the life of the College. It is obvious that the College's goals and proposals cannot be carried out by the Board alone, but only through the membership's active involvement and in cooperation with other institutions oriented towards Geography, e.g.: cultural and scientific associations, university departments, etc. It is only through cooperation among geographers, and if they view the College as something of their own in which they take an interest and is of value to the profession, that this project can continue.

A College with a purpose: increasing public awareness of the profession, services to the profession, and developing networks within the profession

There is no doubt that the goals set forth for the College in this presentation are

²⁰ Activities of the various territorial delegations can be seen at www.geografos.org

optimistic and ambitious, as can be expected from the expectations the project has generated within geographic circles in Spain. In fact, the project's take-off demanded focus on the future emboldened by action, with a strategy for achieving clear and coherent goals.

In this context, the College has adopted a decisive strategy of promoting the profession in four directions: 1) offering value-added services in support of geographers' professional activities; 2) bringing academic training in line with the needs of exercising the profession; 3) promoting networks for the purpose of cooperation among the members; 4) and promoting public awareness of the College and the profession. To achieve these goals, a de-centralized organizational model was proposed, along with virtual networks, professionalism and membership involvement.

It was through the cooperation between the various groups of geographers, as well as between territories and among the various professional, scientific, and cultural associations that the College of Geographers came to be. The College is a place where all geographers may join together, to promote the discipline, foster public interest in, and awareness of, Geography and geographers.