

STATEMENT OF WOMEN IN SCIENCE

Prepared by the Opinion Group of
the *Observatori de Bioètica i Dret*
(Bioethics and Law Observatory)
Parc Científic de Barcelona

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INTRODUCTION

The Opinion Group of the Observatori de Bioètica i Dret, based at the Parc Científic de Barcelona, was formed to study from a pluridisciplinary viewpoint the ethical, social and legal implications of the new scientific achievements and to make promote social debate and to specific proposals for legislative action.

The Observatori de Bioètica i Dret itself was created with a view to participating in the university-society dialogue and making its voice heard in the wider society via the public bodies which control and regulate research, and the media, which have a duty to present accurate, high-quality information.

For this reason, The Opinion Group has already prepared seven Documents on a number of issues which cause controversy, both in society in general, and among the scientist working in these fields.

In this case, the group has studied the academic and professional presence of women in science. A number of shortcomings have been detected. These call for the adoption of gender policies to overcome discrimination against women in public and private research and teaching. Solving under-representation will also demand informed social debate to determine actions to be taken and the necessary legislative changes.

In this project, the working group comprised Drs. M^a Jesus Buxó, María Casado, Teresa Freixes, Ana Sánchez Urrutia and Carmina Virgili, with coordination by Dr. Roser González Duarte. The group also drew on contributions from experts in various fields as set out in the Annex.

PREAMBLE

Recent studies on Gender and Science amply illustrate the under-representation of women in Europe's public and private research institutions *ETAN Report, She figures 2003*, and the *WIR Report*¹. Comparative studies of EU countries reveal a level of discrimination which calls for corrective measures ensuring equal access and promotion opportunities for women in science and technology, and in the design of research policy. European Parliament Resolution of 16 September 1988 recognised under-representation of women in management and leadership roles in research and teaching as a widespread problem across Europe and one which requires immediate action.

Furthermore, actually assessing the position of women in science is extremely difficult. This is not only due to inaccessible data, or even non-existent data in some cases, but also to the way data are presented, which restrain comprehension and comparison. For example, a large proportion of National Statistics Institute² (INEBASE) data, including relevant research and employment statistics, does not include gender variables.

Another obstacle is that sexual discrimination is not normally perceived to be such, neither by women who suffer it nor by society as a whole. One of the causes underlying this invisibility is the constant claim that our society is actually equal. However, this equality is confined more to legal theory than social reality. The constitutional law of all countries in our setting recognises gender equality as a right; yet this recognition serves to hide real discrimination against women in our societies. On another level, it is not "politically correct" to draw attention to the reality of inequality and its causes, since certain women seek to avoid the stigma of being perceived as members of a group suffering discrimination and in need of "help" of some sort. The education system is another factor serving to impede public perception of gender inequality. The education system seeks to transmit and inculcate values of equal-

¹ ETAN Report <http://www.cordis.lu/etan/home.html>;
She figures 2003 http://europa.eu.int/comm/research/science-society/pdf/she_figures_2003.pdf;

WIR Report <http://europa.eu.int/comm/research/wir>.

² INEBASE <http://www.ine.es/inebase>.

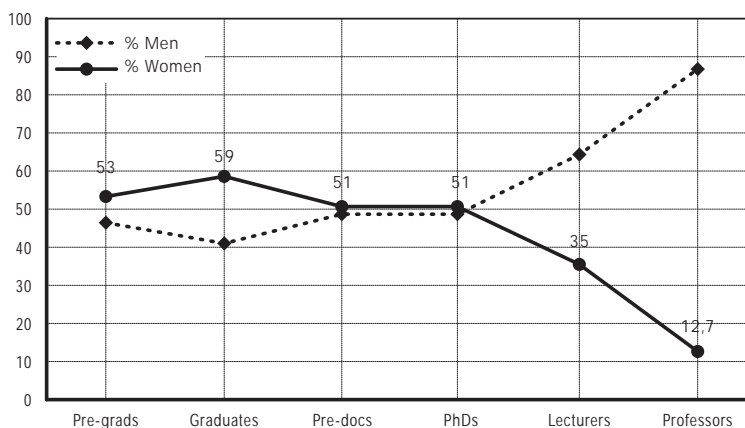
ity. Again, however, this theoretical equality does not correspond to the reality of daily life, and the resulting contradiction leads to distortion of perception of inequality from childhood to adolescence. It is well known that younger girls invariably reject the suggestion that they suffer any form of discrimination, since they have not yet experienced the well-known and properly named glass ceiling, which only becomes more tangible as one moves higher up the social-professional ladder. Their reaction is understandable, since the existence of discrimination would not only serve to question and contradict the values conveyed by the education and legal systems, but would also constitute a contradiction between ideas and practices.

Achieving greater levels of genuine equality between women and men is not just a matter of good individual practice, it requires dismantling of the structures which maintain and reproduce the social subordination of women. Failure to confront this structural challenge will mean failure to eliminate discrimination, and surface-level positive action measures will only serve to nurture and disguise inequality. Public policies aiming for equality may prove counter-productive if not directed at the heart of the problem, since they create an impression of change and social progress but are nothing more than cosmetic operations.

Several decades after the en masse entry of women to higher education (women now comprise half of the EU undergraduate population and 55% of graduates), their presence is still not reflected in the upper echelons of science. And since scientific policy, funding and scholarship committees, academy members and directors are all drawn from highly positioned scientists there is a correspondingly greater absence of women among these bodies. The work of C. Wenneras and A. Wold and the MIT³ highlighted beyond doubt that women's failure to reach the top of the science ladder is not in any way due to a lack of scientific productivity. In a case of equal merits, a woman invariably obtains a lower-ranking position than a man, and takes longer to obtain a given professional status. For a woman to achieve a high-ranking position in science and technology she must be at least twice as qualified as male candidates.

³ C. Wenneras i A. Wold, *Nature* 387: 341-343, 1997
MIT, <http://mit.edu/fnl/women/women.html>.

The discrimination described above clearly underlies the Spanish universities and CSIC 2004 statistics, which serve to further confirm the ETAN and WIR reports. Full women professors in Spain account for only 12.81 % of the total, while women researchers in the CSIC account for only 15.4 % of the total research staff⁴. However, moving down the scale, the proportion of women rises, until reaching 53 % of total undergraduate students and 59 % of total graduates. Women also account for the majority of those obtaining doctoral scholarships, but once they get the Ph. D. degree and try to get an academic position this advantage is often offset by departmental employment policies which tend to favour men. The data drawn from the Spanish Ministry of Education and Culture on the proportion of women and men holding chairs speaks for itself. In graph form the data take the typical scissors shape, and the descending line represents women. The number of women obtaining high-ranking positions is extremely low in comparison with the numbers of women graduating in the past, but even more so in terms of the numbers graduating today.



Data up to PhDs from 2003-2004. Lecturers and Professors from 2001-2002.

Figure 1.- Women and men in Spanish universities.

⁴ Report on the academic staff of Spanish public universities, academic year 2003-2004, www.mec.es/consejou.

Report on research professors of the CSIC <http://www.csic.es.hispano/mujeres>.

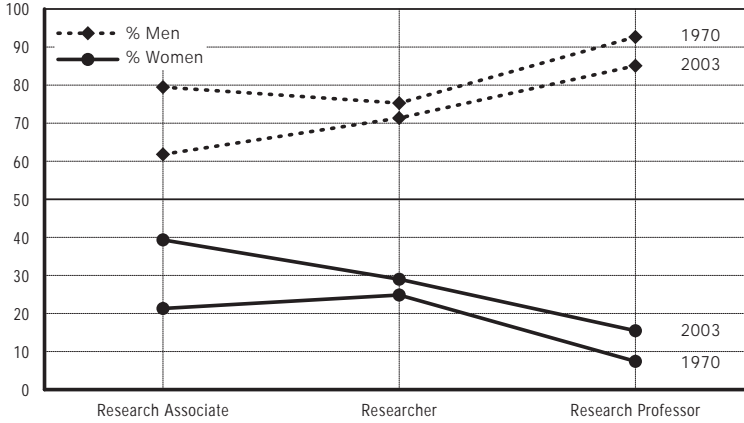


Figure 2.- Percentage of CSIC women and men researchers.

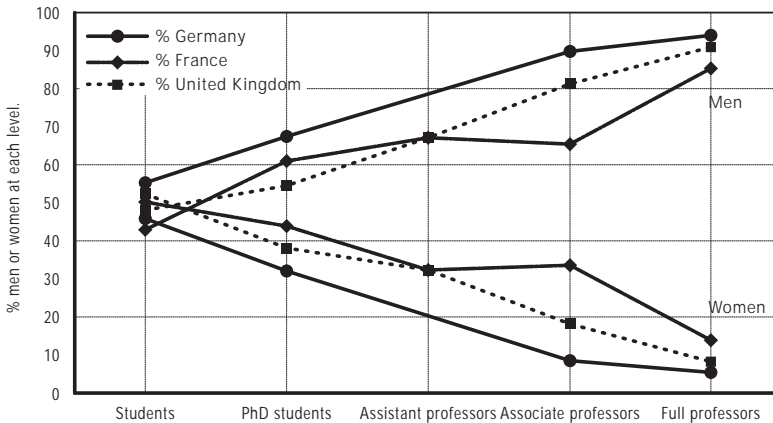


Figure 3.- Percentages of men and women in various academic categories in France, Germany and United Kingdom.

The irrationality of this discrimination and proof that it derives from long-established, deeply-rooted power structures can be seen in the most traditional subject areas – those with the greatest social impact and intellectual prestige. In these subject areas, the presence of women at higher levels is minimal. In contrast, in more recently created research areas women’s presence tends to be more significant, irrespective of whether these areas are seen as more or less “feminine”. For example, the second and third women full professors of the Spanish university

were appointed in Geology in 1962 and 1963, shortly after the Faculty's creation.

Women have progressively acquired, as have men, the necessary competitive skills, yet the final results are not comparable. This problem affects the fundamental rights of women, yet it is also negative for society as a whole. A society which, paradoxically, invests increasingly large amounts of money in education and promotion of its members cannot afford the luxury of discarding half of its brains, thus wasting huge resources of human capital. Both Ethics (which seeks, among other objectives, human happiness, through examination of human moral issues) and Law (which seeks to regulate for the real problems facing society) must concern themselves with this issue, and propose guidelines which are acceptable to the majority, and yet respectful of minorities. Women too, of course, have human rights, and comprise the majority of the human population. The United Nations has declared on many occasions that women's rights are an integral component of universal fundamental human rights.

This document aims to provide information, analysis and different points of view, in order to participate in the public debate and also so as to offer guidelines to the government and legislators for appropriate implementation and application of current laws. This includes adequate application of the gender perspective as set out by European legislation. It might also be necessary to modify legislation so as to ensure effective exercise of women's rights to equality. The distance between the values held by the majority of the society and the law must not be so great as to convert the latter in nothing more than a collection of good intentions. It is vital for legal consensus to be based on a foundation of consolidated data and within the framework of recognised rights.

The problem of discrimination against women in science cannot be viewed in isolation from the overall issue of women's equality at work and in the family. A number of social and economic factors have a negative conditioning effect on women's professional activity in our society. These include long working hours, a lack of nursery schools and crèche facilities, shortage of public care resources for the sick and the elderly, and many other factors which militate against full integration of women into the world of work, especially if they seek to combine

family and career. To overcome this, we must remove the structural obstacles, and implement specific actions in the public science and technology sector, following in the footsteps of other European countries that have already implemented such programmes.

In Spain, we have directly applicable laws – at state, autonomous region, European Union and international level, and the various codes have their corresponding penalties. Outstanding (both in terms of importance and levels of unawareness and incompliance) is EU legislation. In effect, European legislation establishes gender mainstreaming (e.g. integration of the gender perspective) as an obligatory instrument in planning, interpretation and application of EU programmes and policies across the Union. The European Commission has defined gender mainstreaming as a foundation stone for genuine democracy, and regrets the shortcomings which still persist in the realm of gender equality. Firstly, then, gender mainstreaming⁵ must be integrated into our science policy.

To achieve real equality, the already existing legislation and rules must first be interpreted from a gender perspective.

Real conciliation between professional and family life. Over recent years European law has set out the requirements for conciliation between professional and family life¹. The European Union and its member states must endeavour to ensure that all policies and applications of EU funding be coherent with a policy of gender equality.

Positive action measures. Positive action measures are an important tool in the drive for equality and also in European law. In the aftermath of the Treaty of Amsterdam, paragraph 4 of article 141 TEC⁶ was amended to state that “the principle of equal treatment shall not prevent any Member State from maintaining or adopting measures providing for specific advantages in order to make it easier for the under-represented sex to pursue a vocational activity or to prevent or compensate

⁵ “Full integration of women, in equal conditions, into all political and social programmes, and into the ways of doing and seeing things”.

⁶ “Equality between men and women must be ensured in all areas, including employment, work and pay. The principle of equality shall not prevent the maintenance or adoption of measures providing for specific advantages for members of the under-represented sex.”

for disadvantages in professional careers.” The European Court of Justice has also provided detailed and precise interpretation for application of this article. Article 23 of the EU Charter of Fundamental Rights⁷ states that the principle of equality does not impede maintenance or adoption of measures implementing specific advantages for the under-represented sex. This article is also maintained unamended in the European draught constitution which, once accepted, will provide constitutional support for positive action measures.

Equal treatment. The principle of equal treatment for men and women with regard to access to employment, training, professional promotion and working conditions implies prohibition of sexual harassment and includes sanctions^{II}.

To promote equality, it is also necessary to apply European Court of Justice criteria regarding indirect discrimination, including reversal of the burden of proof⁸ and adoption of positive action policies in the professional sphere, especially in universities and research centres. The Court of Justice considers that differences that cannot be explained objectively and reasonably constitute sexual discrimination^{III}. With respect to professional promotion in the university, the Court has ruled for implementation of positive action measures and the adoption of objective and scientifically measurable criteria^{IV}.

Spanish law also provides legal instruments for promoting real equality. It is impossible to mention all of them here since the Constitution (arts. 14 and 9.2), the Statutes of Autonomy (empowering the Autonomous Regions to undertake measures promoting equality for women), and both State and Autonomous Region law, all set out numerous specific measures aimed at ensuring genuine equality between women and men. For example, one of the most recent measures, Law 30/2003, of 31 October, for evaluation of gender impact of Government legislative actions, would be extremely useful if correctly applied.

⁷ Equality between men and women will be guaranteed in all social activities, including employment, labour and wages. The principle of equal treatment does not restrain the maintenance or adoption of measures, that provide specific advantages to the sex under-represented.

⁸ Reversal of the burden of proof means that once certain indications of direct or indirect discrimination have been demonstrated by the plaintiff, it will fall to the defendant to demonstrate that no discrimination has occurred. This frees the person or group hypothetically discriminated against from having to prove their case.

Gender balance in decision making. The EU has also offered guidance to Member States and recommendations that they adopt comprehensive, integrated strategies aimed at favouring equal participation by men and women in all spheres of political, economic and social life, introducing, if necessary, legislative, regulatory or promotional measures.

Ironically, the interpretation and application of these measures has met with obstacles since the pressure groups determining the composition of decision-making organs in science favour men. Accordingly, gender representation on these organs is far from a situation of balanced parity. And the fact that these committees which co-opt, perpetuate and promote members, are unaware of the existence of mainstreaming policies and EU rules, means that access and promotion processes in science lack the objective criteria that would enable achievement of a real level of parity⁹.

In this context, the Opinion Group of the Observatori de Bioètica i Dret, declares as follows:

⁹ Examples that illustrate this point are gathered in the Annex of the Document.

DECLARATION

Given that one of the purposes of the public powers is to promote equality and improve the quality of human life.

Given that our legal system, through a wide range of measures, establishes equality policies.

Given that it is not enough to merely proclaim rights, but rather ensure that they can be effectively exercised.

Given that our legislation formally sets out a level of equality which does not correspond to practical reality.

Given that inequality has not been eliminated within the European Union, nor in Spain nor in Catalonia, but indeed that discriminatory practices have been observed to actually increase.

Given that our education system educates for equality but that this equality does not obtain in real life.

Given that this apparent equality serves to disguise a lack of genuine equality and the continued existence of discrimination with regard to opportunities and responsibilities.

Given that this lack of visibility serves to prevent women and society in general from realising the extent of present-day discrimination.

Given that the problems of discrimination against women in professional life, and especially in the fields of scientific research and teaching, must be confronted in a context of plural discussion.

Given that it is necessary to contribute to this social debate, and work to guide and orientate legislative activity, application and interpretation of the law and government actions.

And in awareness that our criteria for action must be subject to regular review, in line with the advance of science and social and cultural change.

The Opinion Group of the Observatori de Bioètica i Dret issues the following:

RECOMMENDATIONS

1.– The gender discrimination that exists in the field of scientific teaching and research must be made visible. This calls for monitoring of all gender policies which are applied and verification that they are adhered to in accordance with basic international indicators:

- * Statistics regarding employment and posts of responsibility should include gender data. Data should be presented clearly and homogeneously so as to facilitate comparative analysis.
- * Social stereotypes of gender and professional expectations should be studied to verify the extent to which they influence specific situations and policies.
- * Policies to aid conciliation of professional and family life should be introduced.
- * Non-discriminatory language should be used.
- * Preliminary studies and ongoing monitoring of gender policies will require gender-sensitive statistics on resource assignation, distribution of time and space, access to information, and other areas.
- * Current legislation and case law on gender equality should be studied to determine whether it is effective, appropriate to the real situation and capable of ensuring effective exercise of rights.
- * Budgetary and financial measures must be taken to facilitate incorporation of women into all fields in equal conditions. Without financial provisions, equal opportunities policies cannot succeed.

2.– European Union regulations on gender mainstreaming must be incorporated into and applied to Spanish law, as has occurred in other areas of legislative activity:

Strange as it may seem, the same criteria have not been followed in the field of women's integration as in other areas; this includes both legislation and adaptation of the guidelines set out by EU case law. This

point is important, since application of EU law is mandatory and directly applicable in all EU states, and has primacy over national legislation.

- * Equal treatment together with positive action measures are required, for real conciliation between professional and family life.
- * Gender-balance must be sought in decision-making processes.
- * Gender mainstreaming must be introduced into science policies.

3.– Monitoring of actions aimed at achieving effective parity and equality.

This means that the government must demonstrate its commitment to these policies by establishing specific measures for their evaluation and monitoring. The results of these processes must be made public.

4.– Commitment should be obtained from the universities and research centres to apply specific measures, including:

- * Introduction of non-discriminatory equality policies and gender provisions in their statutes.
- * Gender parity on governing and controlling bodies, including evaluation, funding, employment and promotion committees.
- * Gender parity on committees which monitor all the above, with an obligation to make the results of their evaluations public.
- * Promotion of internal policies to overcome deficiencies and promote equal access conditions for women. Specific funding must also be allocated for these policies.
- * Regular gender audits to determine the barriers and obstacles militating against women's access to and promotion in universities and research centres. Again, specific funding should be allocated for this purpose.

Final explanatory notes

- ^I The European Union and the Member States must ensure that the actions funded by EU structural funds and other community policies be coherent with mainstreaming gender equality policies, including policies for conciliation of professional and family life.

This was established by Regulation 1260/1999 of 21 June, 1999, laying down general provisions on the Structural Funds. Article 33 of the European Union's Charter of Fundamental Rights includes "protection from dismissal for a reason connected with maternity and the right to paid maternity leave and to parental leave following the birth or adoption of a child" within the area of conciliation.

Article 16.3 of the Community Charter of Fundamental Social Rights of Workers sets out the importance of introducing measures enabling improved conciliation for men and women between their professional and family responsibilities. Conciliation was also cited as an objective of the Social Policy Agency (Communication from the Commission COM (2000)379 final).

After the Lisbon Accords of 23 and 24 March 2000, the integration of conciliation measures into overall EU policy was stepped up. In addition, the Resolution of the Council and the Ministers for Employment and Social Affairs (300Y073102) of 29 June, 2000, sought balanced participation of men and women in professional and family life, and the Permanent Representatives Committee Note (13481/00 LIMITE SOC 437) of 17 November 2000 again highlighted the need to promote improved articulation of professional and family responsibilities.

Especially significant are the measures set out under the EU's Fifth Action Programme on Equal Opportunities 2001-2005. Also important was the inclusion of conciliation in the Council Recommendation (2002/178/EC) of 18 February, 2002 on application of Member States' employment policies, and in European Parliament Resolution of 28 January, 1999 on the protection of families and children (B4-0800/1988, A4-0004/1999, R4-0004/1999). The "Partnership for a New Organisation of Work" Green Paper (COM(97)128) of 16 April, 1997 also established the importance of measures for conciliation in the organisation of work.

- ^{II} Sexual harassment was first prohibited by Community Law in a binding form in European Parliament and Council Directive 2002/73/CE, of 23 September, 2002, on the principle of equal treatment between women and men in terms of access to a job, to professional training, and to professional promotion, and to conditions of work. This Directive, which amends Directive 76/207/CEE, obliges Member States to establish sanctions, both in civil and administrative, and criminal law. Especially significant among these measures are Commission Recommendation of 27 November 1991 on the protection of the dignity of women and men at work, which includes a practical Code aiming to combat sexual harassment, and Council Declaration of 19 December 1991 on the implementation of the Commission Recommendation on the protection of the dignity of women and men at work.

- ^{III} With respect to balanced participation of women and men in decision-making processes, Member States are recommended to adopt an integrated strategy aiming to promote balanced participation in all political economic and social spheres and to implement, if necessary, legislation, regulatory and promotional measures. Especially relevant are Council Resolution of 27 March, 1995 and Council Recommendation of 2 December, 1996 (86/694/CE). The European Parliament has issued two resolutions in this respect: Resolution of 2 March, 2000 on women in the decision-making process (B5-0180/2000, R.50084/2000) which argues for the use of electoral quotas as a transitional measure parallel to training and information for women party candidates, and Resolution of 15 June, 2000 calling for application of the provisions of the Beijing Platform on balanced representation. The low level of women's participation is highlighted in European Parliament resolution on representation of women among the social part-

ners of the European Union, 2002/2026 (INI), of 25 September, 2002 (A5-0279/2002). Having confirmed the low participation of women in science (ETAN and WIR reports, She figures), the European Commission itself adopted its Decision of 19 June, 2000, concerning gender balance on committees and expert groups with the aim of increasing the numbers of women working in this sphere.

^{IV} The Court of Justice has stated that when a case alleging sexual discrimination – including indirect discrimination – is brought, the burden of proof is on the employer and not the employee (*Stad Lengerich v. Angelica Helmig*, C-399/1992 and *Seymour Smith and Perez v. UK*, C-167/1007). In this light, the emphasis is not on proving that discrimination has occurred but rather on proving that it has not occurred either directly or indirectly (*Nils Draehmpaehl v. Ukraine*, C-180/1995). In addition to this consolidated case law, Council Directive 97/80/CE, of 15 December, 1997, attributes the burden of proof to the defendant in cases alleging sexual discrimination in social, administrative and civil law.

^V The European Court of Justice has ruled in detail on the application of such positive action measures. In the well-known *Kalanke v. Freie Hansestadt Bremen* case (C-450/93), the Court ruled that equality of treatment could not be seen as an absolute value and that, therefore, differential treatment was acceptable in certain exceptional circumstances if justified by objective reasons. At the same time, since positive action is by definition exceptional in nature, it cannot be interpreted loosely, but restrictively.

As a consequence of the provisions of the Amsterdam Treaty, the Court later extended the scope of application of positive action measures. For example, in the *Marschall v. Land Nordrhein-Westfalen* (C-409/95), positive action measures favouring the under-represented sex in a specific professional category were not considered to be in breach of the equal treatment principle in cases of equally qualified candidates. Further, the Court ruled that regulations must ensure that candidates be subject to objective assessment which takes account of the specific personal situations of all candidates, and that positive action measures be applied on a temporary basis and only when candidates of different sex are equally qualified to occupy the post in question. The *Badek* case (C-195/97), provided the Court with the opportunity to confirm the permissibility of positive action measures in the public service, when necessary to ensure compliance with the objectives of the women's advancement plan. Even more precisely, the ruling in *Abrahmsson et Anderson v. Elisabet Fogelqvist* (C-407/98), set out that positive action measures are permitted when the difference between the respective merits of the candidates is not so great as to give rise to a breach of the requirement of objectivity in making appointments. Similarly, in *Lommers* (C-476/99), in its ruling of 19 March, 2002, on conciliation of professional and family obligations, the Court found again in favour of the compatibility of positive action measures with Community Law.

ANNEX**DATA ON THE REPRESENTATION
OF WOMEN IN UNIVERSITIES
AND INSTITUTIONS*****Spanish Royal Academies***

– R. Academia de Jurisprudencia y Legislación	40 members:	0 women
– R. Academia de Ciencias Morales y Políticas	34 members:	0 women
– R. Academia de Ciencias	43 members:	1 woman
– R. Academia Nacional de Medicina	59 members:	2 women
– R. Academia Nacional de Farmacia	49 members:	5 women
– R. Academia de la Historia	35 members:	2 women
– R. Academia de Bellas Artes de San Fernando	67 members:	2 women
– Academia de Doctores	257 members:	30 women
– R. Academia Española	43 members:	3 women

***Catalan Research Foundation
(2003 REPORT, website checked in June 2004)***

– Board	19 members:	0 women
– Permanent Committee	11 members:	0 women
– Scientific Committee	19 members:	0 women
– Financial Committee	8 members:	0 women

Tables based on the report on the permanent teaching staff of Spanish public universities (www.mec.es/consejou, May 2004)

**1.– Permanent university teaching staff:
proportion of women per area**

Type of area	%	No. of women	Distribution
A	less than 28	79	40
B	28-36	46	24
C	more than 36	71	36

Note: The specific types of area are set out in the report.

Of all subject areas, 40% have less than 28% women. Areas with between 28 and 36% of women represent almost a quarter of the total (24%). Around one-third of areas have a proportion of more than one woman teacher per three men.

**2.– Distribution of women and men
in terms of professional category**

Category	No. of women	%	No. of men	%
CU	1055	6,8	7179	22,1
TU	9149	59,2	16966	52,3
CEU	751	4,9	1598	4,9
TEU	4504	29,1	6721	20,7
TOTAL	15459	100	32464	100

Note: Data drawn from Tables 1 and 2 of the report.

Women at the top of the ladder (CU) represent only 6.8 % as opposed to 22.1 % men. Six out of every ten women are at the level of TU and 3 out of every 10 at the lower level (TEU).

The total sum of men in both these categories (TU + TEU) is fewer than 3 out of every 4.

**3.– Subject areas in which no chair is occupied
by a women or in which women occupants account
for no more than 10 % of the total.**

Range	Areas	%
0	28	14,3
0,1-10	59	30
TOTAL	196	

Note: Certain subject areas have no chairs, of either sex; these are only included in the total.

In 14.3 % of subject areas no chair is occupied by a woman.

Three subject areas out of every ten have less than one woman occupant of a chair per ten chairs.

**4.– Data on distribution of Chairs in Spain’s public universities.
Subject areas (out of a total of 196)
with 0, 1 , 2 or 3 chairs held by women**

0 women chairs (CU) in 29 AREAS: Morphological Sciences. Navigation Sciences and Techniques. Didactics of Corporeal Expression. Didactics of Musical Expression. Didactics of Mathematics. Physical and Sports Education. Aesthetics and Art Theory. Stratigraphy. Mining. Graphic Expression in Engineering. Earth Physics, Astronomy and Astrophysics. External Geodynamics. Cartographic Engineering, Geodesics and Photogrammetry. Aerospace Engineering. Agro-forestry Engineering. Construction Engineering. Manufacturing Processes Engineering. Geotechnical Engineering. Transport Engineering and Infrastructure. Electrical Engineering. Hydraulic Engineering. Telematics Engineering. Obstetrics and Gynaecology. Otorhinolaryngology. Paediatrics. Engineering Design. Literary Theory and Comparative Literature. Urban and Regional Planning.

1 woman chair (CU) in 27 AREAS: Comparative and Pathological Anatomy. Astronomy and Astrophysics. Animal Biology. Surgery. Naval Engineering. Didactics of Language and Literature. Electromagnetism. Electronics. Hebrew and Aramaic Studies. Basque Philology.

Condensed Matter Physics. Earth Physics. History of Science. Agroforestry Engineering. Mechanical Engineering. Nuclear Engineering. Textile and Paper Engineering. Immunology. Indo-European Linguistics. Fluid Mechanics. Continuum Mechanics and Theory of Structures. Ophthalmology. Mineral Prospecting and Research. Architectural Design. Psychiatry. Environmental Technology. Signal and Communications Theory. Toxicology.

2 women chairs (CU) in 23 AREAS: Pathological Anatomy. History and Theory of Architecture.

Architectural Technology. Administrative Law. Dermatology. Didactics of Experimental Sciences. Didactics of Social Sciences. Stomatology. Architectural Representation and Visual Analysis. German Philology. Italian Philology. Galician and Portuguese Philology. Theoretical Physics. Internal Geodynamics. American History. Automatic Control. Logic and Philosophy of Science. Heat Engines. Preventive Medicine and Public Health. Palaeontology. Animal Production. Radiology and Physical Medicine. Electronic Technology.

3 women chairs (CU) in 14 AREAS: Mathematical Analysis. Materials Science and Metallurgical Engineering. Political and Administration Science. Didactics of Plastic Expression. Catalan Philology. Philosophy of Law. Atomic, Molecular and Nuclear Physics. Geometry and Topology. History of Thought and Social and Political Movements. Legal and Forensic Medicine. Animal Medicine and Surgery. Psychobiology. Animal Health.

Women in the university summer schools (2004)

Course directors

– Universidad Internacional Menéndez Pelayo	138 men:	6 women
– Escuela Complutense de Verano	119 men:	19 women
– Universidad de Verano de El Escorial	98 men:	11 women
– Universidad de Verano del País Vasco	71 men:	13 women

**RELACIÓ DE SIGNANTS
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