

# Female Academics in a Knowledge Production Society

Erica Halvorsen, Association of University Teachers<sup>1</sup>

## Abstract

*In the latter half of the twentieth century, the 'Professional Society' was, and continues to be, replaced by a 'Knowledge Society'. One of the characteristics of the 'Professional Society' was its masculine culture and hierarchies. This paper examines the effect that the shift from a 'Professional Society' to a 'Knowledge Society' has had on the careers of female academics. It considers the career paths of vice-chancellors and goes on to examine the effects of geographical mobility on promotions. In addition, the significance of high proportions of professors in highly-rated research departments, and the gender implications of that, is examined. In the concluding section it is argued that, while universities continue to support the hierarchies of the 'Professional Society', it is to the detriment both of women and of knowledge production.*

The shift that has taken place from the so-called 'Professional Society' to the 'Knowledge Society' challenges the strongly gendered hierarchies that are an inherently 'masculine' characteristic of the notions of expertise and practice of professionalism. In a 'Professional Society', expertise is located in the professional elite, such as lawyers and doctors. Knowledge is contained within the professions and expertise is almost exclusive to them. In contrast, 'Knowledge Societies' are those in which the information that can build expertise is accessible and available to everyone. The rationing of knowledge and expertise in a 'Professional Society' leads to the inequitable exclusion of sections of the population based on deterministic social identifiers, such as gender, class and ethnicity. However, the expansion of higher education over the last twenty or thirty years has led to a wider distribution of knowledge and 'opportunity for all', which has, in turn, contributed to the creation of a more equal, more fluid, society. A greater proportion of highly educated citizens will almost certainly influence the strata of a democratic society

and being a graduate has, to a certain extent, replaced the older inequalities. It is, though, the ready availability of information, most particularly through the internet, that is one of the greatest challenges to professionalism.

The 'Professional Society' in the United Kingdom developed synchronously with the modern university, from the mid-nineteenth century until after 1945. At the beginning of this period, women were denied entry to universities. When they were admitted, just over a hundred years ago, one of their primary needs was to consolidate their place there, within existing, male-devised and -dominated hierarchies. The consequence of this delayed access could be seen as limiting the effect women might have on the development of the modern university. Women's need for acceptance within the existing structures curtailed their ability to influence evolving ones. The hierarchies of the universities mimicked those of the 'Professional Society'. Now, the structures necessary to a 'Professional Society' are being eroded, and the gendered, masculine nature of the modern university system is outmoded. Yet the masculine culture is still pervasive, and academic women are likely to continue to be disadvantaged in their employment until a seismic shift occurs either within or without the Academy. It can be contended that the democratisation of expertise, which tends to undermine the regularities and hierarchies of Professional Society, might produce such a shift.

This paper is an attempt to determine if and how female academics are disadvantaged in their employment, despite the shift from a professional to a knowledge-production society. It examines the relative position of full-time male and female academic staff and suggests that one of the reasons why women are under-represented in the higher academic grades is because the academic career structure favours the advancement of men. The first part of the paper defines some of the characteristics of university leaders and the career paths they have followed before achieving their position. By profiling existing vice-chancellors, examining the backgrounds of the most recently appointed and looking at the pool from which future appointments are most likely to be drawn, it suggests that few women are likely to become vice-chancellors in the next few years. In the second section, the effects of mobility on promotion are investigated. This is to determine whether the under-representation of women in promoted posts is due, in part, to their inability or reluctance to move. The relative effect the proportion of female professors has on research rankings is assessed in the third section. Fourthly, the proportions of male and female research staff are

analysed. In the concluding sections, the impact which the change from one kind of society to another has had on women in higher education is discussed and various initiatives are explored.

### **Evidence of disadvantage**

It is a well-researched and recognised fact that women in employment generally are clustered in lower-status and lower paid jobs.

The pattern of other parts of the economy is replicated in higher education: women and ethnic groups are under-represented at senior levels. . . . However, the sector is committed to improvement. After all, a commitment to fairness, justice and truth is at the heart of what defines a university or college. The number of women vice-chancellors is increasing (admittedly from a low base), and the proportion of female academics is steadily rising. (Kingsmill, 2001)

The under-representation of women at vice-chancellor level is rooted in the tradition of recruiting, at least since the 1930s, vice-chancellors from a single, i.e. academic, occupational environment; this is a practise that continues into the third millennium. The last six appointees to the position of vice-chancellor, two of whom are women, have confirmed this to be the favoured route. Four of these people were employed as a deputy or pro-vice-chancellor, or equivalent, at different UK universities immediately prior to becoming a vice-chancellor. The other two appointments acknowledge the international nature of the vice-chancellor market, perhaps unsurprisingly as academics have travelled to seats of knowledge since the first foundations of the university. Both appointees, one man and one woman, were previously heads of Commonwealth universities.

There is little evidence to suggest that the tradition of appointing from within the sector will change substantially in the near future. The vice-chancellor of a UK university is almost certain to have spent all of his or her professional working life in higher education. There are one or two exceptions<sup>1</sup>, but they are uncommon. Promotion to a 'top job' from within a sector is not unusual, or exclusive to higher education. As with all industries, certain of the skills necessary to their successful running are transferable, but others are usually only gained through long and close, usually internal, association with them. The practice of internal selection becomes problematic when the prevailing structures prevent, or hinder, women from reaching the pool from which leaders are selected in a comparable proportion to men.

Consideration of the internal promotion and selection factors in the

appointment of vice-chancellors shows that in the 114 university institutions listed by UniversitiesUK (UniversitiesUK, 2002), 81.5 per cent of the heads of institution are professors. This will usually mean that they have held a chair in their specialisation prior to becoming a vice-chancellor. Their academic credentials are as well recognised as their managerial skills. If the practice of appointing vice-chancellors from the academic ranks is to continue, and more women are to be appointed to the position through the promotion processes, the number and proportion of female professors is key.

The average age of appointment to vice-chancellor is 53 in the old university sector compared to 50 in the new, with a span of 27 years from 38 to 65 (Bargh et al., 2000). This suggests that vice-chancellors appointed over the next five years will presently be in the 45 to 54 age group and be professors. Currently, male professors in that age group outnumber females by a ratio of 7:1 (HESA 1999/00), so even if vice-chancellors are replaced at the rate of ten a year, in the next five years only one woman will be appointed from within the academy every year to replace them. This is obviously a very crude calculation and does not take account of the relative positions these professors hold now, such as the number of deputy and pro-vice-chancellors there are among them, and their individual merit or ambition. It serves though to illustrate that unless there is a radical change in existing practice it is unlikely that male and female representation at that level will be equal for many years.

In the short term, the three most recently announced appointments to a vice-chancellorship, to take up post in autumn 2002, are all men. Two of them hold prominent positions in the universities from which they come, and both are aged in their fifties. The third is Chief Executive of the Arts and Humanities Research Board. He was 43 when his appointment was announced. The current ratio of female to male professors under 45 shows slightly greater equality of representation at 1:6. The greater proportional representation of women in this age group might be indicative of increased opportunity for them in attaining positions as university leaders in the future.

Mobility is an almost certain prerequisite for a vice-chancellor. The extent to which it might affect the career and promotion prospects of those lower down the academic ladder is examined in the next section.

### **Mobility and promotion**

If the basis for recruitment of women at the highest level is missing because too few are becoming professors then it might be due to the

promotions processes of the universities. Many universities monitor appointments and produce statistical reports about their recruitment and promotions. One such report states:

Overall, four women were promoted to Chairs between 1993 and 1998, with ten appointed directly from outside the University. At the same time 66 men were promoted to Chairs, and a further 48 men were appointed directly from outside the University. Women thus constituted 5.7 per cent of internal promotions and 17.5 per cent of direct appointments between 1993 and 1998. Once considered for promotion to Chairs, both men and women have a similar chance of being successful (66.7 per cent for women, 63.5 percent for men). (Hester, 1999)

If this is illustrative of the situation in the UK as a whole, and given the small number of female professors there is no reason to suppose otherwise, then the essential bar to progression is ‘being considered’, or not. Table 1 shows the relative positions of full-time academics on permanent contracts who entered their current institutions a minimum of ten, twenty and thirty years ago.

There is diminution over time of both genders on the career grades, as would be expected. Career grades are Lecturer A and B (UAP), Lecturer (Clinical, PCEF, CSCFC and Locally Determined), and Senior Lecturer (PCEF)<sup>2</sup>. It would appear that men are promoted more quickly than women, and that parity is only achieved after twenty years. After thirty years, a woman is more likely to be employed in a promoted post (Senior Lecturer – Clinical, CSCFC, UAP and Locally Determined – and Principal Lecturer – PCEF and Locally Determined) than a man, but this is because more men go on to become professors.

TABLE 1

Gender distribution by grade of staff who entered current institution pre-1970, 1975–79 and 1985–89

	Pre- 1970		1975 – 1979		1985 – 1989	
	Female	Male	Female	Male	Female	Male
Career Grades	35.5%	23%	40%	29.5%	58%	44%
Promoted Posts	49%	47%	43%	43%	35%	37%
Professor	15.5%	30%	16%	27.5%	7%	18%

Note: these figures give no indication of the benefit, or otherwise, of moving from one institution to another.

Further analysis of the full-time, permanent, male and female academic staff by comparative position who, given their age and an assumed age of entry to the profession of 25, have spent their entire working lives in the same institution allows comparisons to be made. Academic staff who entered their present institution at the age of 25 will not have had much, if any, experience of working in any other college or university. The only substantial difference between these people, in terms of their initial suitability for employment, will have been their qualifications. (The level of highest qualification for this subset is available as at 1999, but this is not necessarily the level of entry qualification. Ward (2000) finds that differences in male and female qualifications across rank are of central importance to explanation of aggregate salary differential.)

Such analysis of the relative seniority of academic staff who have developed their careers within the same institution shows that internal promotion is gender biased. Women in the 55 to 59 age group who began their academic careers more than thirty years ago are nearly one and a half times more likely to be on a career grade than men. The chance of their holding a promoted post is about the same; and the likelihood of their being a professor is three and a half times less than for a man. Again, in the 45 to 49 age group, the cohort that entered their first higher education teaching post between 1975 and 1979, a woman is about one and a half times more likely to be on a career grade than a man, and there is approximate parity of proportional gender representation on promoted posts. However, men are only twice as likely to be professors. The data on entrants to the profession in 1985 to 1989 provides evidence to suggest that these patterns were determined early in these academics' careers. Women are one and a quarter times more likely to be on career grades, but a quarter less likely to hold a promoted post. Men are twice as likely to be professors. This suggests that men are being fast-tracked through the system, and that 'being considered' is a given for a larger proportion of them than women.

Statistics are not collected nationally on the number of external appointments to chairs, or any other higher education posts. Information is available about employment in the year immediately previous to the year of the current data so that the numbers transferring within the system and joining it from, say, industry can be readily seen in any one year; but the quantity of horizontal *and* vertical moves cannot be calculated. In an attempt to assess the effect, if any, which mobility has on promotion the relative positions of staff within the age groups previously considered can be compared.

Table 2 shows the distribution by position and gender (by per cent

TABLE 2

Distribution of staff by age group, length of service, gender and grade

	Female	Male	Female	Male
	Entered present employment 1970 or later		Entered present employment in 1969 or before	
Age 55–59				
Career Grade	47%	32%	33%	23%
Promoted Post	37%	36%	53%	48.5%
Professor	16%	32%	14%	28.5%
	Entered present employment 1980 or later		Entered present employment in 1979 or before	
Age 45–49				
Career Grade	64%	43%	46%	30%
Promoted Post	28%	32%	42%	45%
Professor	8%	25%	12%	25%
	Entered present employment 1990 or later		Entered present employment in 1989 or before	
Age 35–39				
Career Grade	65%	51.5%	81%	68%
Promoted Post	31%	39%	17%	24%
Professor	4%	9.5%	2%	8%

of gender) of full-time, permanent staff who have been employed in their current institution for more than ten, 20 and 30 years and are aged 35 to 39, 45 to 49 and 55 to 59 respectively. That is, those who are very unlikely to have had previous employment outside their current institution, and all other staff in those age groups. The other staff may, for example, have come from employment at another institution within the higher education sector, either national or international; industry; a research institution; or through mature student entry.

Within the 35 to 39 age group, a change of institution or career increases the likelihood of gaining promotion for both sexes. For the 45 to 49 age group the situation is reversed, except for male professors who do equally well whether they move, or stay in the same institution. In the 55 to 59 age group, both men and women have been more likely to become professors if they changed their employer or employment. The

doubling, albeit from an initially low percentage, of the proportion of female professors who stayed in the same institution to those that moved or came from outside the sector in the 35 to 39 age range suggests that mobility is a not inconsiderable factor to be taken into account when assessing a woman's chances of achieving the top academic positions in a university or college. This would also appear to be true for promoted posts.

Research output is usually given considerable weight in the promotion criteria, and the gender balance within subject areas and RAE 2002 outcomes are considered in the following section.

### **Quality and quantity**

The number and proportion of female academics increases annually. In 2000, 36 per cent of academics were women. How those women's time is allocated within their institutions is under-researched. There is some evidence to support the theory that women carry the administrative burden in departments, and have less time than their male colleagues for the research that can so often play a major part in their promotion prospects, but it is largely anecdotal. The Higher Education Funding Councils have declined to provide a gender breakdown of submissions to the last Research Assessment Exercise, but the information that is available is thought-provoking. By using the Scottish Higher Education Funding Council's quality weightings, and the Higher Education Statistics Agency's distribution of staff by gender and cost centre, it can be shown that the cost centres that have the highest proportion of women also have the lowest aggregated RAE scores. There is no overall correlation between the proportion of women in a subject area and its RAE rating, but Education and Nursing, with 27 per cent and 49 per cent of women respectively, have the least number of highly rated RAE departments. Languages, with an approximately equal gender split, scores the highest using this method.

Had the gap between the proportion of women working in departments of Education and those working in Language Schools been wider, then the obvious conclusion to be drawn would be that subject areas where women predominate do badly, or not as well as those which are predominantly male. Given the very small difference between the proportion of women in Education and in Languages, this would almost certainly be a precipitate and unjustifiable assertion to make. As Nursing has the lowest proportion of men, so it has the highest proportion of female professors. It is the only subject area in which there are more

women than men at that level. This might add weight to an argument that favours equating low research ratings to feminised subject areas. But again, it is confounded by the not significantly large difference between the proportion of female professors in departments of Education and Languages. These are 25 per cent and 19 per cent respectively.

All of the proportions are much greater than the proportion of female professors to all professors, which is 11.5 per cent. It is only when the percentage of professors, of both sexes, in the individual departments is considered that some explanation can be offered to refute any suggestion that gender is a determinant of quality of research. As senior academics are very much more likely to apply for research funding compared to other academic staff (Blake, 2000), it is reasonable to suppose that subject areas that have significant numbers of senior staff are more likely to receive funding and to achieve the advantage that good performance in the RAE bestows. In Nursing 2.5 per cent of all staff are professors; in Education 5 per cent of all staff are professors; and in Languages the percentage is 12.3.

Male-dominated subject areas that scored highly in the RAE are Pharmacy, Pharmacology and Civil Engineering. Each has a higher than average proportion of professors, at 16 per cent, and all but seven of those professors over all three disciplines are male. The Wellcome study 'found no evidence of direct gender discrimination in the allocation of research funding' (Blake, 2000). Purely, then, from the statistical evidence, it appears that good RAE results do not depend on the gender distribution of the staff in a department. High scores across a discipline are more likely to be achieved when there is a high proportion of professors within that discipline. If anything, the below-average proportion of professors in Languages and the excellent RAE ranks of Language departments might show that women are better researchers than men.

### **Researchers and fixed-term contracts**

The second section of this paper concentrated on the 'lecturing grades', i.e. staff employed on all academic grades other than researcher. It attempted to show the relative position of women on full-time, permanent contracts across those grades. However, over a third (35 per cent) of female academics are employed full-time as researchers. Nearly all researchers are employed on fixed-term contracts and Table 3, below, shows both the proportion of male and female full-time staff on lecturing and research grades, and the percentage of each on fixed-term contracts.

*TABLE 3*  
Distribution of full-time staff by gender and type of contract

	Female				Male	
	% Female	% Male	% Permanent	% FTC*	% Permanent	% FTC*
Research Grades	40	60	5	95	6	94
Lecturing Grades	30	70	78	22	85	15

\* Fixed-term contract

The high proportional representation of women amongst full-time research staff accounts for the majority of women on fixed-term contracts. However, the proportion of female lecturing staff who are on fixed-term contracts is surprising. Over one fifth of women on the lecturing grades do not have a permanent position. Altogether, nearly half (47 per cent) of all full-time female academics are on fixed-term contracts. This compares to about a quarter (24 per cent) of men. This suggests that women have more difficulty in being appointed to permanent positions than men. The reasons for the precarious employment conditions of research staff are not investigated here, but the disadvantages of fixed-term employment are apparent, both from a career and a personal perspective. Once again, women are seen to be twice as likely to be detrimentally affected by an aspect of their academic employment.

### Conclusions

It can be seen from the relative positions of female academics now that there is little evidence to support the notion that the shift from the 'Professional' to 'Knowledge' Society has had a substantial impact on women within the Academy. One reason for this may be that a 'Knowledge Society' extends beyond the boundaries of the university. Where previously knowledge production had been the privileged activity of universities and analogous research institutions, it is now a highly distributed activity. As the democratisation of expertise, over which universities have no control, undermines the regularities and hierarchies of 'Professional Society', so the universities seem unwilling to depart

from those structures that supported that society which remain within their control. More and more is expected of universities, but they may be less and less able to deliver stable solutions. In this environment, it would seem that rather than embrace societal change, universities want to cling to 'traditional' structures, almost as if by preserving them they become the last bastion of 'true' or 'proper' knowledge production. One casualty of this defence of knowledge is the advancement of women.

Knowledge production is no longer exclusive to universities. Yet, by disregarding the merit of a significant proportion of its staff, the higher education sector displays carelessness bordering on arrogance. For higher education institutions to remain in the vanguard of knowledge production, national initiatives should be undertaken to optimise all their available resources. One of the most crucial of these must be recognition of the contribution of women.

### **Initiatives**

The under-promotion of women is not unique to the UK. In Austria, for example, initiatives are national rather than higher education-specific, but are transferable to the tertiary education sector. The National Employment Plan (Federal Ministry of Labour, Health, Economic and Social Affairs, 1998) requires that the composition of purpose and salary groups should aim to be 40 per cent female. In Sweden, objective criteria were introduced to redress the balance and increase the representation of women professors. According to these new rules, any senior lecturer who satisfies the employment requirements of a professor shall be employed as a professor. Educational skills, a facet of the process that is likely to favour women, should be given greater weight in this promotion process than before. Recruitment objectives are specified with a view to increasing the number of women among newly appointed professors (Högskoleverket, 2001). In the mid-1980s, five per cent of Swedish professors were women; by the mid-1990s this figure had risen to eight per cent; in 2000, two years after reforms had been made to the system, 13 per cent of professors in Sweden were women. In those two years, 1,100 lecturers were promoted to the rank of professor; 18 per cent of them were women.

National initiatives in the United Kingdom have focussed more on addressing the gender pay gap than they have on advancing women within their professions. In 1997, the most comprehensive review of higher education for more than 30 years recommended 'a framework of employment that addresses quality, stability, diversity and flexibility in

the recruitment and retention of staff' (Dearing, 1997). Two years later, this was taken as the starting point for an examination of higher education pay and conditions. Disappointingly, it was stated in the report of this investigation that 'national targets against which progress towards which more equal opportunities could be monitored [were considered], but [we] concluded that HE institutions' circumstances are too varied' (Bett, 1999). Despite Bett's caution, however, negotiations are currently (Spring 2002) being undertaken to ensure that the sector's pay system delivers equal pay for work of equal value, and guidance on pay audits will be developed. This does not directly address the under-promotion of women, but may go some way towards eliminating pay disparity between men and women on the same grade. 'Progress has been made since Bett. For example, the Equality Challenge Unit (ECU) set up by HEFCE to help HE institutions deliver improvements in equal opportunities has made progress' (Kingsmill, 2001).

The Athena Project was subsumed into the ECU and most of the work under way relating to women's representation in higher education is supported by the Athena 2000 Development Programme. The work that has been done under its auspices includes: setting up Local Academic Women's Networks in Science Engineering and Technology at five universities (Athena Project Report 14, 2000); a project at Heriot-Watt University that was undertaken to investigate the reasons women academics and researchers left the university, and if there were any barriers that prevented them seeking promotion (Athena Project Report 10, 2000); and another at the University of Edinburgh that examined the over-representation of women in research grades and their under-representation in lecturer grades (Athena Project Report 9, 2000).

There are also a number of institution-led initiatives, such as The Elsie Widdowson fellowship scheme at Imperial College. The scheme is the first of its kind to recognise the necessity of a research-only role for female academics. It enables female academics who have taken maternity leave to concentrate on research for the year following their return to work in the way that fits in most easily with their family obligations. Outside higher education, but still within the public sector, the National Assembly for Wales announced one of the most recent innovative initiatives. Civil servants working for the Assembly will be able to take career breaks, including maternity leave, and return to the point on the pay scale they would have reached had their service been uninterrupted (MacErlean, 2002). While these schemes are laudable, they are localised, and the equality of pay and representation towards which they

aim will only be achieved incrementally through them. Equality of opportunity for women in universities is unlikely to be realised until national initiatives are implemented in each higher education institution.

### Notes

1. The views expressed in this article are those of the writer in her personal capacity. They are not necessarily shared by the Association of University Teachers. Analysis of the raw HESA data was carried out by the author and any conclusions drawn from the analysis are the author's own.
2. PCEF, UAP and CSCFC are the nationally negotiated salary scales operative in the English and Welsh 'new' universities and colleges of higher education; the 'old' universities; and the Scottish 'new' universities, respectively.

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