

## ***Series Background Studies*** **HALF-HEARTED SCIENCE**

### **Under-utilisation of female potential as an existential problem for the academic world**

The Minister of Education, Culture and Science has asked the Advisory Council for Science and Technology Policy (AWT) for its recommendations on the incentives required to involve more women in Dutch research. The Council's report on its findings focuses primarily on the current state of affairs and the measures to be taken, in the universities and research organisations (Netherlands Organisation for Scientific Research (NWO) and Royal Netherlands Academy of Arts and Sciences (KNAW), in the light of the fact that the Minister of Education, Culture and Science bears special responsibility for these organisations.

The state of play regarding women in the university and research world is that now half of graduates are women. The breakdown of academic staff by contrast does not reflect this in terms of the percentages of men and women. The under-representation of women rises sharply the further up the career ladder they go. At the end of 1998, 41.5% of trainee research assistants were women while the respective figures for lecturers, senior lecturers and professors were 21.2%, 7.8% and 5.4%. Dutch universities and research institutes are not unique when it comes to the under-representation of women. A similar picture can be drawn in other countries. However, an international comparison shows that the Netherlands is well down in the league tables among Western European countries.

### **The problem of under-representation of women in the academic world**

The Council voices its concern about the existing and ongoing under-representation of women in the academic world. It sees this as an existential problem for the institutions themselves, and not just as a question of unfairness towards the women concerned.

In the near future, these institutions will increasingly be needing young talent to be able to fill the numerous university positions falling vacant with staff of the right calibre. In a tight labour market in particular, the institutions simply cannot allow themselves to ignore the female potential. To be capable of tackling the competitive battle for scarce talent on the labour market, universities must stop and consider what attracts women, or puts them off, and consider how to attract and keep female talent. Apart from these considerations related to the labour market, the Council is of the opinion that greater diversity in the composition of university staff can enhance the quality of science and the arts. This applies to teaching and research alike. A teaching body of diverse composition would meet differing needs for support and would offer a diverse student population several role models. Diversity in staffing composition, and thus diversity of experiences and life patterns, could also lead to innovative research questions and approaches. The institutions will be shooting themselves in the foot if they deny themselves this diversity in staffing.

### **Reasons for women being under-represented in the academic world**

For specific recommendations to be made we need some understanding of the factors that explain the under-representation of women in the academic world. The Council recognises first of all that there are historical and cultural factors that play a role. More so than any other

country, the Netherlands has a tradition of the man being the breadwinner, as reflected in the level of wages and salaries, in fiscal legislation and in social security provisions. The concept of the man as breadwinner, which in the past had strong moral support and was held out as the ideal, has certainly had some impact on women's participation in the academic world. We can also draw attention to a number of specific factors of importance to the situation within the academic world. The Council has looked at three possible specific explanations.

*Explanation 1 – It's a question of time....*

One possible explanation for the present under-representation of women is that women only started studying in large numbers later on and it is a question of time until the growing numbers of female graduates enter the academic world in equal proportions and then move on to higher posts. Undoubtedly, the larger flow of female graduates will then lead to further growth in the number of women in university positions. The Council would note, however, that the actual numbers moving on amidst the sharp increase in the proportion of women among graduates to (senior) university staff posts are lagging behind what one would expect to see.

Over the past decade, the percentage of women in the various academic posts has admittedly risen, but this growth is less than could be expected on the basis of the sharp increase in women graduates and thus the pronounced growth in the pool from which female researchers and academics could be recruited. In that sense, we could even say that under-representation has been heightened rather than weakened, particularly in senior positions. There has certainly been no catching-up to overcome the backlogs created in the past. Women also continue to be under-represented in the younger cohorts, particularly in the senior ranks. For example, it is found that female academics – and that includes the younger age cohorts – are two to three times less likely to be a professor or senior lecturer than their male colleagues.

The Council concludes that the under-representation of women is not only a problem of numbers of women available and thus a matter of patience. There are other factors at play.

*Explanation 2: Women less frequently opt unconditionally for an academic career*

Another possible explanation for the under-representation of women in the academic world is that - particularly on account of motherhood and care responsibilities – women themselves are deciding not to dedicate themselves entirely to science and research. The 'logical' consequence then is a diminution in their career opportunities. The resultant difference in output is crucial, as the number of publications plays a major part in assessing individual researchers and deciding who takes up appointments. Empirical studies have shown that motherhood as such does not have any impact on productivity. Female academics with children are not less motivated or less dedicated to their work; it is true that they work part time, more often than men do. The difference in output between male and female academics at the same job level disappears when an adjustment is made for the scope of the appointment. However, such an adjustment figures little in assessing and promoting individual academics. Part-time working and the impact this has on overall output thus proves to be a problem for women in the academic world.

The differences in the scope of appointments and consequently in output do not, however, provide an adequate explanation for career differences between men and women. Even if women have enjoyed the same education as their male colleagues, are of the same age, have the same work experience, publish the same amount and work full-time, this does not lead to the same level of improvement in their position. Career differences, it is found, are not exclusively attributable to strictly meritocratic criteria.

*Explanation 3: Obstacles related to the system itself*

A third possible explanation for the under-representation of women in the academic world concerns the workings of the system itself. More so than men, women have difficulty with the individualistic and competition-based work culture in research institutions and with the prevailing one-dimensional view of academic quality. This is mainly put forward as a reason why women feel less at home in the academic world, with consequences for motivation, self-confidence and their departure from it. Female academics also feel more frequently excluded

from informal networks which are vital to information transfer, career guidance and improving one's position. It is also found that within the academic world there are subtle exclusion and unfair-treatment practices. The accumulation of several minor decisions with just a slight gender bias has major consequences for the position of female researchers in the longer term.

### *Conclusion*

The Council draws the conclusion that the present under-representation of women in the academic world cannot simply be explained by the lack of female potential in the past or the more limited input of women (as measured over time) in research. There are other factors at play. A wide range of more or less subtle mechanisms in the system itself are resulting in a persistent under-representation of women. It is still the case, and has been so for many years, that male researchers have a greater opportunity of moving on to more senior positions than their female colleagues. Radical changes are called for if there is to be a structural improvement in the situation.

### **The role of government**

The Council is of the opinion that the under-representation of women is a problem for the institutions themselves. It therefore finds that in the first instance the universities and research organisations (which are largely autonomous) must themselves take action through their policies, tailored to the local situation and appropriate to the institution's strategic policy. The AWT is pleased that the urgency is sensed at the senior administrative level at least and that there is support at the level of the administration to actually put through some improvements. But the Council also sees a role for the Government, for the following three reasons.

1. A reason of principle: It is unacceptable that exclusion mechanisms are at work in the (publicly-financed) academic system that deter women from participating or being able to participate as much as men in the practice of research. Women's participation is not just a fundamental democratic right but is also necessary on account of the enormous significance of science and technology in our society for increasing the diversity of scientific issues and approaches so that a better response can be given to the varied social requirements and challenges.
2. An economic reason: The development of science and technology is vital to the Dutch knowledge economy. Not just the universities themselves but also Dutch society is short-changing itself by failing to make optimum use of the potential of female talent.
3. A tempo-related reason: The rise in the proportion of women in academic posts is too slow in view of the sharp growth in the pool of female academics from which to recruit. Additional government policy is justified and necessary to bring about an acceleration.

### **Recommendations**

The Council is of the opinion that the Government should adopt above all a role of encouragement, focused on positive support and acceleration of policy processes in the institutions themselves. In concrete terms, the Council proposes the following:

- Persistently and explicitly placing the under-representation of women on the agenda. The institutions should be urged to work towards target figures in the formal channels through which the institutions render account to the Minister of Education, Culture and Science, and that should preferably extend to new appointments as well. In view of the existing and ongoing under-representation of women, the Council considers it vital for strong pressure to be brought to bear on the institutions on this point.
- Encouraging the setting-up of a –temporary – expertise centre which will assume responsibility for facilitating activities, to support policy processes in the institutions. The centre's remit will be to perform or commission studies, ensure the availability of quantitative data required to set target figures and benchmarking, identifying and disseminating good practice examples of policy measures, ensuring the transfer of knowledge and experience.

- Introducing special incentives to reduce the under-representation of women. The Council proposes increasing the financial base of the recently launched ASPASIA programme, designed to foster the movement of female university lecturers to senior appointments. Over and above this, the Council advocates setting up a separate incentive to increase the number of female professors. In view of the seriousness of the problem, the Council considers such targeted government incentives to be desirable.

- Setting targets through agreements on the participation of women in general research development funds.

- Initiating a discussion on a broader definition of the concept of quality of research. Where the emphasis is now very much on criteria of scientific content as a contribution to science, attention should also be given to the contribution made to social development and responding to social issues and requirements. The aim here is the better use of science, but the assumption is that at the same time, as a side effect, working within the academic world becomes more attractive to women.

The Council believes it is not appropriate for the Government to assume a role which entails the use of penalties, in the funding domain for example, partly in view of the proven willingness at senior administrative level to increase the proportion of women. The institutions must, however, live up to the faith placed in them. The Council believes that sufficient pressure must continue to be brought to bear. It advises the Minister to evaluate the situation in five years to check that there has been a structural improvement. If not, the Government should then consider sanctions.

