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GUEST BLOGGER: WHERE HAVE ALL THE SCIENTISTS GONE? BUILDING RESEARCH PROFILES AT DUTCH UNIVERSITIES AND ITS CONSEQUENCES FOR RESEARCH

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This guest entry is written by Grit Laudel (TU Berlin) and Elke Weyer (German Council of Science and Humanities). In their guest entry they examine how research profiles were built at Dutch universities, and analyse the impact of profile-building for both universities and scientific fields and the potential consequences of these developments for national science systems as a whole.

This entry is based on the book chapter with the same title in: Richard Whitley & Jochen Gläser (eds.). Organisational Transformation and Scientific Change: The Impact of Institutional Restructuring on Universities and Intellectual Innovation.

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New Public Management reforms in many countries include enhanced opportunities for universities to build research profiles and pressure by the government to do so. Building research profiles usually means the concentration of resources on fewer topics than before. Despite their prevalence in many higher education systems, these processes have found little attention in higher education research, and their effects are poorly understood. At the same time, concerns have been raised that profile-building might threaten the diversity of research and make some fields disappear from the national research landscape.

Our empirical study of profile-building at Dutch universities looked at micro-level processes of profile-building and their possible nation-level effects. The Netherlands provide an excellent laboratory for such analysis due to advanced New Public Management reforms and the relatively small size of the country, which makes national fields very sensitive to decisions at individual universities.

Demands for the selection of research priorities date back to the early 1980s when the government complained that very few efforts had been made to prioritize research efforts across the country. It was, however, not before the new millennium that the Dutch government took concrete measures to bring about the 'right' content in university research. It argued that universities should develop distinct research and teaching profiles in areas where the Netherlands are excellent and which are important from a socioeconomic point of view. At the same time, it established nation-wide 'top' sectors in which research efforts were to be concentrated and research collaboration with industry stimulated, such as Agro-Food; Horticulture and Propagating Stock; High-Tech Materials and Systems, Energy; and Creative Industry. The government earmarked funding for these areas, including one third of the budget of the Dutch Research Council NWO. Although the Dutch publicly funded universities are in principle free to 'ignore' the call for profile building, their increasing financial difficulties created a strong pressure to take the financial rewards.

All Dutch universities adapted their profiles to meet these political expectations. Although the top management of the universities investigated by us held the ultimate power to decide on research

profiles, it delegated profile-building choices to the level of faculties. Only when budgetary considerations were dominant, university management used formal authority to override the epistemic authority of researchers, often by recruiting outside experts as a source of information on the research and for legitimising their decisions. We identified three strategies of profile-building that were used by the universities and faculties:

- purely thematic re-contextualization (developing a new description of research activities without changing them),
- thematic and financial prioritisation (selection of topics that got more financial support than others), and
- (positive or negative) selection of topics (import of new research or the removal of existing research). This strategy led to a sharp change of profile.

In the investigated cases, none of these strategies forced researchers to change their research goals. However, researchers in fields that were given a lower priority felt unwelcome and threatened. Even though a prioritisation strategy let them stay with the same or slightly reduced funding, they learned that they are less important to their university, and that their position could become precarious whenever budget problems occur. Prioritisation strategies and increased selectivity of resource allocation in the university created a tendency to crowd out researchers in non-priority areas. These researchers began to leave the university whenever the opportunity arose. Dutch universities seemed to have created distinctive research profiles and some Dutch researchers moved to universities where they fitted with their research interests. Nothing to worry about?

A closer look revealed that profile-building let universities not only lose a couple of researchers but had unintended consequences. For instance, when Utrecht University decided to close its Astronomy Department, it had not anticipated that a theoretical physics group would leave as well. With the closure of astronomy this group had lost their local collaborators, and the group leader commented: "*My institute does not operate in an isolated environment; the elimination of other excellent groups in the department of Physics and Astronomy affects us considerably.*"

Another unintended effect occurred on the level of a whole national research community. Evolutionary developmental biology is a relatively new interdisciplinary research field that seeks to answer fundamental biological questions and has no link to medical or other applications. Nor is it a topic that makes researchers score high on common performance indicators: typical citation scores are lower than those of other fields, and external funding is difficult to come by. Dutch universities responded to state expectations by discouraging this kind of fundamental research represented by evolutionary developmental biology and the fields on which it builds. Universities ceased to invest in such groups.

When one institute that was strongly related to evolutionary developmental biology was closed as a consequence of profile building decisions, the largest and internationally highly recognised evolutionary developmental biology group left the university shortly thereafter. The process had created an atmosphere at the university that the researchers considered unfavourable. Several biology chairs were re-dedicated towards more application-oriented research. Funding agencies also followed state expectations and prioritized applied research.

This combination of state expectations, shifting funding priorities, and managerial decisions of research organisations let the field of evolutionary developmental biology shrink and come close to extinction. Similarly, many physicists working on ultra-cold matter (so-called Bose-Einstein condensates, a new field of fundamental physics without foreseeable applications) found themselves in a situation where they did not fit into university priority areas anymore. The development of this new research field was ground to a halt at a time where it was growing internationally.

The Dutch case has taught us that profile-building creates a propensity for quasi-market failure. If all universities follow the same signal when shaping their profiles, they are likely to select the same topics, which in turn leads to a growth of some fields and the disappearance of others. The long-term consequences of the lower diversity in a national science system could be severe.