

# Chapter 14

## Conclusion: On the Verge of Breakdown

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The common denominator of the articles in this volume is a perceived transformation in science and scholarship as we know it. The authors point to two different but related forces: first, there is the political ambition to make the university more like the economic landscape depicted in a certain model of the market. This political ambition is based on the idea that academic research and higher education can and should be adapted in advance to the assumed needs of the market and that the results of research should be privatised and transferred to this market, which is supposed to require assistance in integrating scientific developments. The political ambition rests on the belief that a university landscape organised in such a way as to emulate an economic landscape is the best way to achieve efficiency in research and education. The second force comes from commerce and industry, which have interests in directing research and higher education to meet the specific needs of globally interdependent business networks. These forces together, we think, contribute to the phenomena addressed in this volume: the marketisation of science and scholarship and its repercussions.

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Thus, on the one hand, the university is approached by companies seeking an external supply of tailor-made developments of specific functions. On the other hand, the university is subjected to political and policy measures, with the OECD and EU at the forefront, to adapt research and higher education to the ostensible needs of a 'knowledge market'. Finally, we have interests within the university who consider a rapid adaptation to both of these forces as a way to prove that the university has an important role to play through its direct contribution to economic growth – perhaps as a way to increase public funding. The effect is not only that the university's knowledge production has become capitalised, but also that it has been steered towards an array of specific short-term economic and political interests.

There is a growing corpus of research into these phenomena, including higher education studies, STS and innovation studies as well as in sociology, anthropology, philosophy, comparative literature, etc. Since the 1990s, various aspects of the changes being undergone in academic research and teaching in a *globalised privatisation regime* (Mirowski 2011) have been treated in all of these fields. In most of these studies, although not all, the traditional agnostic tone of science and scholarship is retained, despite the intrinsic call to reflexivity that the nature of the topic would seem to make. In short, the question of what science and scholarship are or should be concerns us as academics: it is about our work, its purpose and its direction. It also concerns our career prospects, our self-esteem and numerous other aspects of who we are as professionals and as human beings. In this respect, every engagement with these issues is an intervention, whether or not it is acknowledged as such. In this volume, the authors explicitly and conscientiously *take a stance*, based on their experience, understanding and knowledge.

The diversity of approaches and backgrounds of the authors and editors of this book, as of the material to which they refer, shows that there are many fruitful ways in which to interrogate the structures, institutions and practices of the late-modern university, including the forces effecting these, just as there are a variety of survival techniques available to individual academics within a changing university landscape. Defined in a traditional sense, the presented texts are *not policy relevant*. 'Policy relevant' can mean different things, however, depending on how one defines the relationship between the university and the state and even how one defines the state itself. Politics concerns values and ideas regarding society and its development, and it is also strongly connected to the political regime: how a country is governed and by whom, as well as what legitimates the government's mandate to govern. Policy is the art of transforming political ideologies into action. In this respect, policy is not a political activity but an administrative one. Policy-relevant research is thus not research that is relevant to the process of political decision-making but to the process of implementation, that is, of putting these decisions to work. If the role of the university were to criticise the holders of political power and to give them insights to help make them better politicians, we would not call this policy-relevant research. Policy-relevant research tends to be exactly what the word suggests: research that provides facts and arguments to support a given political regime in its determination to carry out a certain policy and, ideally, also tells it *how*

to do this. The term itself says something about the extraordinary helplessness of a sector that has become such a powerful force in society.

Yet in another sense, the texts of this volume can be regarded as highly relevant *for those subjected to policy*, insofar as they are relevant for society in general – politics and business included – and for the university in particular. We claim that any attempt to influence the relation between science and what is labelled the ‘knowledge society’ must be based on broad knowledge about, and a deep understanding of, what higher education and research are, how they are constituted and construed and what consequences the current changes may have in the short and long term for society in general.

The texts presented here take aim at several contemporary political assumptions about what constitutes higher research and education and how these can be utilised to achieve economic goals without loss or diminution of value or purpose. The articles also address the role of academic faculty in the ongoing discussion concerning the development of the university, and implicitly or explicitly defend its right and its duty is to act, speak and live in the name of science rather than in the name of commerce. Thus, the contributions to this volume are not merely descriptive but performative. The authors write *as* teachers and scholars, transgressing the boundary that divides one’s life from one’s research and teaching. The majority of the authors have studied some aspect of the system of higher education, but the important point here is that these texts represent lived experience as well as original research, not problems narrowly confined to and defined by a given area of expertise. Another way of putting it is to say that the texts are written by *professionals* in the traditional sense, that is, by people who care about their work and identify themselves with it. As concerned professionals, they see it as their task to speak up about the conditions in their workplace. They are whistle-blowers, who quite intentionally want to create friction in the smooth functioning of the machinery of the higher education factory. What we present here is not expert knowledge in the technical sense, but knowledge presented by experts, by people who have lived the reality they describe.

## **The Globalised Privatisation Regime**

The starting point of our argument is the global economy. More precisely, our point of departure is a reflection on market-model ideas about the global economy as well as the actual business practice of global networking. But what is so special about the contemporary trend towards ‘going global’? Business has always crossed national borders; commerce has always been international. A few of the texts presented here draw attention to the organisation of business activities concealed by the deceptively neutral and descriptive term ‘global economy’. A hundred years ago, the foundation of economic growth was industrialisation, and the competitive edge of countries such as Germany and the USA lay in the standardised production of products for use in heavy industry, communication systems and a mass market

in the ongoing development of big business and the managerial revolution and in electricity as a source of power. Today, the competitive edge and the added value of the leading economies of the world lies not in mass production and electricity but on specialised custom-made products and services which (it is claimed) require another type of capital than economic capital, namely, *knowledge*. We can debate endlessly the grounds for this statement. How can one possibly estimate the amount of knowledge necessary to build a railway compared to the amount of knowledge necessary to build an industrial robot? No serious intellectual would undertake such a task. What we can say on good grounds is that the ideology and the organisation of the global economy has undergone a substantial change during the last four decades, and that this change has affected the definition of knowledge, as well as the regulation, economy and power relations of knowledge. Knowledge has become capitalised, that is, it has become a type of capital, and it has become a target of propertisation (Jessop 2002; Andersson 2010; Mirowski and Mirjam-Sent 2008; Pestre 2003). This development is parallel to a reorganisation of the central node of the modern economy, the company, including the retreat from vertical integration, a wave of outsourcing activities which have resulted, among other things, in changes in R&D, companies now preferring to buy knowledge on a market rather than produce it in-house.

The insight that the reorganisation of the global economy has made demands on a similar reorganisation of the late-modern university is not new, and it is not ours. This insight has been the central node of the writings of scholars such as Sheila Slaughter, Philip Mirowski and others. Mirowski discusses the changed position of the university in western society in terms of a globalised privatisation regime. Characteristics of this regime are the following: (1) the outsourcing of company R&D to universities and the creation of legal arrangements that makes it possible and tempting for universities (and individual researchers) to exploit this development financially. The logical consequence of what is happening is that publicly financed research (in countries where universities are based on public expenditure) is today exploited for private financial gain. (2) The development of a hybrid organisation that belongs neither fully within the private sphere nor within the university: tech transfer offices, university holding companies, contract research organisations, etc. To Mirowski's list we might add, for example, the birth of specialised services aimed at creating networks and improving and simplifying activities related to the co-production of science, such as publication-planning services for matching scientists as authors with the big pharmaceutical companies who have an economic interest in a favourable scientific evaluation of their drugs. (3) The upsurge of issues relating to property rights and what Mirowski (2011, p. 94) terms 'intellectual property vastly expanded', something which has more far-reaching consequences than the evolution of patent offices and the global ranking of universities. It has become a cornerstone in the redistribution of power within universities and in the gradual commodification of teaching. With the help of property rights, the workload of a university teacher can be distributed between two categories of staff: a small number of permanently employed faculty with property rights pertaining to their own ideas and material artefacts emanating from these ideas, and a large group of individuals employed for a limited period with a lower

salary and little influence over their own work, this position being tied to the lack of property rights (faculty who do not put together the course, do not write the lecture and do not 'own' the intellectual content). Internet universities have led the way when it comes to the proletarianisation of faculty (Noble 2001).

It thus seems safe to assume, on the basis of previous research, that the transformation of the global economy into an amorphous network transgressing national borders and held together by multiple layers of interdependencies, as well as the parallel dissolution of the Chandlerian firm, is the prime mover in the present reorganisation of 'knowledge production'. This volume attempts the ambitious project of assessing and analysing the many aspects of this change on all levels of the system, starting with the level of state and national policies and ending with the consequences for knowledge itself. The examples are often taken from a Swedish setting. This is not a disadvantage, however, since Sweden, in this instance as so often before, is a country with a history of being an early adapter, setting its ambitions to being best in class whenever a new idea or concept makes its way through the global chain of policy-making organisations.

## **An Innovative University for the Market**

The role of the university in the post-war decades was first and foremost to provide education for the growing masses of professionals and functionaries needed to populate the Chandlerian firms and implement the policies of the welfare state, and secondly, to conduct basic research, driven primarily by belief in the benefits of science for society. As both Eklund and Widmalm point out in their respective contributions, this is of course a somewhat simplified picture. The ambitious Swedish welfare state early on discovered the need for its own sources of knowledge, and therefore invested resources in agency-led R&D in areas of public interest, such as roads and transportation, housing and the like. It can nonetheless be claimed that the stylised picture of the role of science in society during the decades after the war still took basic research performed in a university setting as a model, with physics, as Widmalm puts it, on the 'top of the academic heap', that is, constituting the cherished golden goose of a state that believed it was the academic discipline itself that would by its own strengths bestow blessings upon society. A highly theoretical basic university discipline was the model science.

This position of science in the economic system did not demand an elaborate theory of what it was doing. As Eklund points out, it was the discipline of economics that theorised about the contribution of science to society, and it conceived this contribution more or less as a black box. Neoclassical economics also saw science as a public good, and, for that reason, science had to be positioned within publicly owned and managed universities. Its contribution to growth was acknowledged but not investigated. Economics had a notably idyllic view of the inner workings of science, with a strong Mertonian flavour (Hasselberg 2012). Universities were to be left to their own devices, and science would develop according its internal logic, academics being naturally prone to strive towards improved knowledge that would in the end benefit society. This has been termed *the linear* model, meaning that knowledge passes from universities to

a commercial setting and then to society in the form of products. This view has now been supplemented with ideas about a socially embedded economy, one of which, as Eklund says, is the national innovation systems approach, launched in the 1980s by two scholars independently: Bengt-Åke Lundvall and Christopher Freeman. The crude political and policy interpretation of this approach is that in order for a nation to benefit from science, a supporting transfer system has to be established.

The Chandlerian firm, as Alexandra Waluszewski argues in her article, has never lived up to the claims of the linear model, and now, when the Chandlerian firm has been surpassed by a complicated global network of interdependent companies, business in general is having the same difficulties living up to the claims of innovation policy. Innovation, the fountain of eternal economic growth in politics, often clashes with demand for return on investment and applicability in supplier and user settings. Companies are supposed to embrace innovation, but in reality this is not always so. Incremental change makes more commercial sense than do major innovations. Institutions such as the patent, favoured by policy, tend to create obstacles and costs in this process, rather than the opposite.

Whatever the practical flaws and failings of the concept of innovation, it has become the main instrument for inventing a new type of research politics, one that does not wait for the universities to provide benefits to the rest of society piecemeal and indirectly, but expects them to be delivered on demand. In the discourse of innovation, benefits are construed primarily in terms of commercially viable, research-based change that contributes to growth and therefore also to the status of the nation in global competition with other countries.

As Sven Widmalm's article shows, there is much that can be said about this idea of competition and the role played by innovation. The first thing to be noted from reading the Swedish government's latest research bill is that research policy has become innovation policy. Research has thus been made invisible *as* research, although it is highly visible as innovation. In fact, Widmalm argues, research as such has not only been made invisible, it has been redefined, in a performative process that constitutes what it is supposed to be describing. Research is innovation and innovation is research – and the business landscape is not seen as a consisting of globally interdependent networks but as a market that, through direct competition, will create a supply for any research-based solution for which there exists a demand. Further, the direct competition among independent firms that is assumed to characterise the market is also seen as a role model for how to achieve efficient academic knowledge production: market-like relations among researchers will breed competition for scientific pre-eminence.

In the process of redefining research and 'gelling it' with innovation, the government also largely rewrites the history of science, or at least the history of science in Sweden, so as to invent 'a national scientific tradition' that Sweden must to live up to if it is to retain its position as a nation of progress and industry. As Widmalm points out, this history is ideologically unsound as well as empirically ungrounded. The Nobel enterprise, one of the bill's favoured examples, was never part of a national tradition – it is an example of a highly international enterprise and certainly not in any sense a part of a historically existing Swedish system of innovation. To this reflection we can add Waluszewski's troubling question regarding

the overall possibility of an effective national innovation policy in a globalised business setting. Do we really have reason to be convinced of the economic benefits for Sweden of a national innovation policy funded by Swedish taxes?

What then are the consequences of this revisionism of the history of science, these various and sundry performative policy documents equating research and innovation that ignore the inconvenient fact this was not always the case?

To date, the transformation of the universities in Sweden so as to redefine research as innovation has mostly contributed to strengthening and accentuating the existing structures and tensions within the system of higher education. What Mats Hyvönen discovers in his article is that the national innovation systems approach is more easily ‘marketed’ at the regional colleges, where research funding is scarce and the dominance of regional and local interest (especially on university boards) makes the idea of local colleges as motors for regional economic growth especially appealing. The focus of his analysis is the project of creating ‘knowledge environments’, into which the Swedish Knowledge Foundation currently invests 1.5 billion SEK. The aim of the programme is to support attempts by the colleges to ‘profile themselves and build strong environments for research and the development of skills in co-production with the business community and regions’. According to the Knowledge Foundation, there also exists another type of research, one that does not gain legitimacy from cooperation with local industry: world-leading basic research, the type of research that can potentially lead to a Nobel Prize. This sort of prestigious research has nothing to do with regional colleges, however, but is the sort of research to be conducted at one of the top 100 universities in the Shanghai ranking. So current research policy seems to aim at the following scenario:

1. A more polarised academic landscape where ‘world-leading’ basic research in the natural sciences and medicine is contrasted not only with the innovative and dynamic research conducted with the aim of directly promoting economic growth but also with research motivated by other goals or aims than economic growth, as well as with research in disciplines and areas of study that do not lead to Nobel Prizes in science at all, such as Latin or philosophy.
2. The polarised structure is accentuated and in other ways affected by an organisational logic that aims to bring about a university landscape modelled on the market, where the interactions between the researchers, teachers and students populating it are antagonistic, and characterised by competition for resources and for a utilisation of their research results in either a university or a business market. As Widmalm shows, a university landscape steered by a market mechanism is thought to lead to the best research.

## **The Industrialisation of Teaching and Research**

It is one thing to want universities to contribute to economic growth. It is another to assume that this requires active competition among them. What connects the two is the presupposition that in the market the resources exchanged are not affected by

how they are combined. But the basic idea of scientific knowledge development is the contrary.

In some countries, universities are and have always been privately managed, often in the juridical form of a foundation. In other countries, Sweden among them, universities are publicly owned and managed and are in essence part of the state bureaucracy. In both cases, the insistence on the growth-contributing capabilities of the university has rather weak ties to the concept of universities as market actors. Both students and teachers can choose among universities, but this choice is not based on any simple mechanism of competition based on the ability to evaluate goods quantitatively. Rather, qualitative features are in the foreground: qualities such as ‘good teachers’ and ‘good courses’ attract students, along with other qualitative aspects such as ‘good location’, ‘good social life’, ‘good reputation’ and so forth. (At least up to the point where students start behaving like consumers and look for the best market value when applying.) Qualitative evaluation is at the heart of research and education; doing research and attracting research funding and students are things that, by the nature of the activities themselves, cannot be done by a university as such. It has to be done by academic faculty. It takes scientific experience and expertise to write applications for research funding and curricula, and it has to be done with the purpose of studying, teaching, learning and creating new knowledge, not with the primary purpose of competing.

It seems terribly unclear whether there is much to be won in terms of renewal by turning universities into actors in the marketplace. In a country such as Sweden, where higher education is financed by taxes and basic research is also to a great extent publicly financed, the temptation to try to squeeze out more output in relation to the input is inherent in the system. (But see Sundqvist 2010 regarding the diminishing public share of the basic funding of universities.) Increased productivity, more than increased capacity for renewal has been the driving force. Given the funding system, an essential prerequisite for increased productivity is to make faculty see increased efficiency and productivity as the goal. Otherwise, few or no gains are possible.

Increased productivity in higher education has been on the agenda of the Swedish government for the last 20 years, ever since the so-called “throughput reform” of 1992/93, when the funding of teaching at university departments was made dependent on the number of students taken on and the percentage that actually passed their courses. University departments have since then become accustomed to being paid per unit, according to a set rate for each HÅS (full-time student) and for each HÅP (full-time course completion). Torbjörn Friberg and Daniel Ankarloo analyse how the concept of ‘contract’ is used to motivate actors in the academy to behave in certain ways so as to achieve the goals of increased productivity. They describe the tendency towards contractualisation as an important tool to achieve this end in recent years. As with all planning, the problem is that quality can neither be planned nor quantified. What happens is that the two parties to the contract are bound by quantitative stipulations, such as timetables, set hours for supervision and set workloads. Sometimes these contracts also place the parties under other obligations, such as specific codes of conduct. The point of writing a term paper subtly shifts from



producing a piece of good academic work to fulfilling the terms of the contract, which facilitates the governance of the academic subject by policymakers and administrators.

As Michael Gustavsson shows in his analysis of degree projects, fulfilling the contract becomes a question of choosing the right theories and methods, and learning to write a paper in accordance with a standardised template. Gustavsson sees the development of ‘methodomania’ as a consequence of mass education combined with the integration of certain professional and vocational training programmes into universities. In order to parcel science and turn it into something that can be grasped and handled by students, we teach them that science amounts to a standardised form of scientific method and then hand them a manual to follow. Doing science becomes a matter of following the right routine.

A further development in higher education in the direction of standardisation and quantification has occurred as a consequence of the implementation of the Bologna Process. Gustavsson dwells briefly on it, stating that the focus on method is naturally strengthened by Bologna, as it removes the academic goals of a university education from discussion. The aim of the Bologna Process is to facilitate compatibility and transferability in higher education, which can be directly linked to the aim of creating an integrated European labour market. Consequently, the aim of the Bologna Process is to turn higher education into an easily discernible set of skills and competences to be acquired by the student and certified by the teacher. In her essay, ‘Higher Heteronomy: Thinking through the Modern University’, Sharon Rider looks at a number of basic assumptions built into the Bologna Process concerning the legitimate aims of government with regard to higher education and the appropriate means to achieve them in light of how the ideals of the modern research university were first conceived during the Enlightenment. In particular, the classical liberal ideal of the autonomy of scientific thought is contrasted with the externality of goals that characterises the conception of higher education and research as formulated in the Bologna Process, which explicitly aim at standardisation, measurability and predictability of both process and product (‘outcomes’), such that the connection between the form and content of what is to be taught is severed, leaving the knowledge and skills learned loosely anchored in understanding.

Li Bennich-Björkman and Inge-Bert Täljedahl both address the commodification of research, but from different angles. Bennich-Björkman approaches the problem from the perspective of the active researcher trying to understand the effects of increased productivity on research defined as more research papers and books being written in shorter time. The effect she sees on her own discipline, political science, is that papers tend to become shorter, more streamlined and based on material and data that are not time-consuming to retrieve or to analyse. She also sees another effect: increased productivity leads to less time for reading, even more so as the ever increasing tide of publications drowns even the most ambitious researcher, who can at best keep abreast with an ever diminishing part of current scientific production. The consequences are (a) a trend towards shorter texts, (b) specialisation and (c) a demand for assistance in order to assimilate the vast material. She predicts that the focus on productivity will in the end prove detrimental to originality.

Täljedahl reflects on the same process, but from the point of view of the final product, the research paper. His problem is precisely the fact that a research paper has become a commodity, and it is a commodity on two parallel markets. One market is the market for jobs and funding. Being the author of a paper has a concrete value on this market and, consequently, the phenomenon of scientific authorship is exposed to inflationary tendencies (the need for citations) and subject to fraud. Being the author of a paper means very little in terms of one's actual contribution to its production. The matter is further complicated by the fact that there is also another market, a market for products and devices that are tested and assessed in medical journals in the same papers. Here, one product sells another product, and the name of a well-known scientist functions as a reliable brand name: it attracts buyers. Hence, phony authorship takes many forms: ghost authorship, guest authorship, gift authorship, etc., all of which bespeak the unclear relationship between the text as an individual contribution to science and its professed authors. Täljedahl describes the tenuous relationship as the collapse of academic authorship.

There are several parallels between what is happening to teaching and what is happening to research in a commodified setting. This is in itself interesting, as the gap between research and teaching, the unity of which was associated with the Humboldt University, seems in many respects to be widening. Teachers and researchers are no longer the same people, and teachers do not necessarily teach what they know. Education as a commodity is a matter of well-defined skills and competencies, with no troublesome burden of identity, history, values or the development of sound judgment attached to them. These competencies can be conveyed to the students by anyone who has mastered the same competencies. Judging an exam paper should also be a matter of examining whether the student has acquired the correct skills, metaphorically ticking off little boxes labelled theory, method, investigation, result, discussion and perhaps adding a value, say 1–7, to each category. If the paper fulfils the contract and all boxes can be ticked off, then the paper qualifies as science. And that is basically all we can say about a text of this kind.

This type of education actually fits quite well with the production apparatus of industrialised research. The shallowness of the relationship between the subject (student or researcher) and the body of knowledge is an asset in industrialised research. One need not agonise over inadequate understanding or insufficient time to digest relevant material. Nor is the lost bond between a publication and its author a problem. In order for lack of time, lack of comprehension and lack of identification with one's textual productions to be problems, there must be a sense of professional identity at stake. If there is no meaning to the activity other than the fulfilment of quantifiable goals, there is no source of concern, but just a job that has to be done by someone. It is also a job that can be done by almost anyone, a technique that can be mastered like any other technique. One can learn 'how to write a world-class paper'.

Hasselberg claims that this process can be interpreted as deprofessionalisation. She believes that the problem that lies under the surface of the spur to control faculty and subject faculty to market forces is the professional problem, society's distrust of professions and of discretionary decision-making. Decisions based on scientific judgement cannot be totally transparent to the public. Scientific judgement, like

professional judgement in general, is value-based; it is based on a professional standard and definition of good work. Marketisation and managementisation have begun to replace judgement with rules, routines and with the demand/supply mechanism. Hasselberg claims that this is in the long run a threat not only to academic autonomy but more pressingly even to democracy and the potential benefits of the higher education system.

## **Politics, Morals and Modernity**

The central problem is what can be done about the present situation and how we should understand the will to harness science to the market or to political interpretations of demand in a market. Arne Jarrick addresses the problem of a social mission for research in relation to the ideal that science should be free to pose and answer its own questions. Is there a conflict between a science that is free and a science that is useful? Jarrick comes to the conclusion that the conflict is spurious. Public benefit must be understood as something much broader than economic growth. Economic growth is a tool to fulfil other goals, such as a good life for as many inhabitants on the earth as possible as well as harmonious relationships between people. If we ask ourselves how science can best serve these overarching goals, Jarrick believes that we will reach the conclusion that they are best served by allowing free enquiry. Science has historically demonstrated a remarkable capacity for asking questions that have not previously been asked and working to solve these problems systematically and patiently, no matter how great or small the monetary rewards or public esteem. This slow but precise work would not be undertaken if we were to curb free enquiry and demand immediate utility, market value or faster value for money. The argumentation echoes the classical economic viewpoint: science is a public good, and therefore the public sector should fund universities and shelter them from market forces. The reader will recall the point, made in Eklund's article, that the idea of science as a public good no longer dominates the field of innovation studies. Innovation studies have opened the black box containing the contributions of science to society and started asking how this contribution can be more systematically increased. If we accept the viewpoint that science is socially embedded and reject the abstractions of neoclassic economics, then we will not view the economic landscape as a market which keeps its hands off science but see it as a network of globally related business and political actors, where those who have the greatest economic and political clout also have the greatest potential to intervene in the production and utilisation of science. How then can the university, in the words of the Magna Charta, 'meet the needs of the world around it' and at the same time be 'morally and intellectually independent of all political authority and economic power'?

Thorsten Nybom reaches a similar practical conclusion as Jarrick, namely, that science must be allowed to develop spontaneously, but he arrives at it through a very different line of argumentation. His claim is that the value hierarchies, norms,

competencies and legitimacy of science, politics, bureaucracy, media and economy are fundamentally different and must be kept separate. The distinct character of each sphere has to be retained if the overall rationality is to be maintained. To Nybom, who treads in the footsteps of Max Weber, this is a moral problem. He qualifies and problematises the science-society relation, claiming that 'decisions preformatted by external scientific preferences can never be taken based on science but can very well be qualified by science'. In order for science to perform its role in society well, scientific decisions have to be based on scientific values. This is equally true for the other spheres and just as important for bureaucratic decision-making as for science. Nybom sees hybridisation as a problem wherever it occurs. The recent trends towards a politicised bureaucracy, a medialised 'quarterly politics' and science as ideology production are all detrimental to society. The solution is to accept the separate rationalities and to repudiate the idea of co-production, a central concept within the STS field. Nybom's claim here is normative rather than descriptive. The actual separateness of the spheres in question may reasonably be questioned, but this does mean that we have to derive the 'ought' from the 'is'. We can accept that there is an actual ongoing hybridisation of science and the marketplace and at the same time ask ourselves whether it is good for science – or for the market – that this hybridisation is occurring.

There are a number of complicated problems that have to be solved in order to mend the present state of the academic system. Some of them are of an almost paradoxical kind. They concern the moral obligations of the individuals involved in the system of higher education, as well as the logical and practical conditions for agency. The university as an institution is closely connected to the growth of modernity. The legitimacy of the university in the modern project lies in its professed unique ability to detach knowledge from partisan interest and make it available to all of society with no concern for what is politically opportune, socially acceptable or commercially viable. While this picture of the university is most certainly stylised to say the least, it served a number of functions, one of which was the socialising of students and faculty to think in these terms (Rider 2009). As Bill Readings (1996) so eloquently argues, we have come very far from the university as a repository of national culture or liberal enlightenment. The modern university no longer has a point of reference that fixes its meaning and purpose. Its current ideology, 'excellence', according to Readings, is its very lack of meaning. This idea of the university as an empty signifier that can be attached to any purpose can be tied to the idea of ever-expanding knowledge. The perpetual move forwards itself is the creator of legitimacy.

The attack on the idea of science resolutely moving forward for the sake of moving forward without concrete ties to the present has been going on for decades and not without some cause. But marketisation has given the critique a new twist. During the last 30 years, we have not only rediscovered the embeddedness of science in society, we have also rediscovered an institution and a type of knowledge that is no more pure and unfettered by political and private interests than the rest of society. This realistic appraisal of the nature of scientific activity and its institutions must be seen as a step forward. The present trends toward politically driven marketisation and business-driven networking can be seen as the last logical step in the process of re-embedding science in society, adding demand to democracy as a prime motive.

At the same time, one cannot help wondering about the alternatives to modern science. What are the consequences of tearing down the norm of value-free science and replacing it with the norm of science on demand?

The first question one wants to pose is what will happen to the master narrative of science as an ever-expanding frontier. If we remove originality and the potential for creating new knowledge (and teaching the students how to accomplish such a thing) as the source of legitimacy for the university as an institution, will this not itself have implications for scientific advancement? To take a concrete example: if the proven ability to produce direct, short-term measurable commercial benefits becomes a standard criterion for assessing scientific merit, will this not affect how researchers develop their ideas and what ideas they develop?

The second question is what norms will replace objectivity and neutrality ideologically as the prime motive for maintaining the university as a public institution. When we re-embed the university in society, what is it actually that we re-embed it in? There is a certain similarity between the aims and ideology of the university as a nineteenth-century nationalist project and the norms and thought forms of innovation policy. In both instances, science is forced to surrender its cosmopolitan and universalist claims to national, regional or even local demands. We think it is also necessary to ponder the effects of re-embeddedness for the project of modernity as such. Will the hybrid network-and-innovation university really be able to uphold a modern identity in the sense of creating system trust, trust from society in the impartial, fair and just production and distribution of knowledge? Perhaps no such thing is possible in practice, but are we really certain that nothing of consequence is lost by rejecting the ideal?

The final and most burning question remains, namely, what can and should be done? How should we react to marketisation and hybrid networking? We believe that the most important conclusion that we can draw at this juncture is that the university as an institution is standing at a crossroad: whether or not we like it, we must make a choice. It is a very problematic choice. Either universities, or rather the faculty of universities, start to defend their right to refrain from market adaption by political means, thus abandoning their claims to being apolitical and in practice enacting the ideal of a *democratic* university, or we accept present developments and let history take its course, hoping that the community of individuals exercising scientific judgement in the university, however central its position in society, will be enough to make a difference.

## References

- Andersson, J. (2010). *The library and the workshop: Social democracy and capitalism in the knowledge age*. Stanford: Stanford University Press.
- Hasselberg, Y. (2012). Demand or discretion? The market model applied to science and its core values an institutions. *Ethics in Science and Environmental Politics*, 12, 35–51.
- Jessop, B. (2002). *The future of the capitalist state*. Cambridge: Polity.
- Mirowski, P. (2011). *Science-mart: Privatizing American science*. Cambridge, MA: Harvard University Press.

- Mirowski, P., & Mirjam-Sent, E. (2008). The commercialisation of science and the response of STS. In E. Hackett et al. (Eds.), *The handbook of science and technology studies*. Cambridge, MA/London: MIT Press.
- Noble, D. (2001). *Digital diploma mills: The automation of higher education*. New York: Monthly Press.
- Pestre, D. (2003). Regimes of knowledge in society: Towards a more political and social learning. *Minerva*, 41, 3.
- Readings, B. (1996). *The university in ruins*. Cambridge: Harvard University Press.
- Rider, S. (2009). The future of the European University: Liberal democracy or authoritarian capitalism? *Culture Unbound*, 1, 83–104.
- Sundqvist, B. (2010). *Svenska universitet – lärdomsborgar eller politiska instrument?* Hedemora: Gidlunds förlag.