Higher Education Dynamics 39

Sharon Rider
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# Transformations in Research, Higher Education and the Academic Market

## The Breakdown of Scientific Thought

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Transformations in Research, Higher Education and the Academic Market

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# Chapter 1
# Introduction

**Ylva Hasselberg, Sharon Rider, and Alexandra Waluszewski**

There is wide agreement that the global system of higher education and research is undergoing a transformation during the course of the last few decades so radical that it can reasonably be compared to the most decisive events in the history of the university: the founding of the University of Bologna in twelfth century, the invention of the Gutenberg press in fifteenth century, the reinterpretation of the task of the university associated with the name of Humboldt in the nineteenth century, the establishment of the modern research university, and later the massification of higher education in the twentieth century (Nybom 2006, 2012). What we are now experiencing is a transformation of equal weight and importance.

What then is essence of this transformation and how should it be labeled? What do we know of this transformation? Philip Mirowski and Esther-Mirjam Sent have characterized the state of art regarding our knowledge of commercialization of science thus:

> First off, there are the motley ranks of Cassandras, who, significantly enough, tend to have a soft spot for the Good Old Virtues of the Mertonian norms and bewail the prospect of expulsion from the prelapsarian Garden/…/By contrast, there also stand the massed phalanx of neoclassical economists, science policy specialists, and their bureaucratic allies, who by and large tend to reverse the valences but nevertheless engage in much the same forms of discourse. For them, most scientists in the "bad old days" had been operating without sufficient guidance from their ultimate patrons, the corporate pillars of the economy;

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> but luckily, with a bit of prodding from the government, a friendly nudge from their university's intellectual property office, plus a few more dollars wavered in their directions, scientists have been ushered into an era that appreciates the compelling logic of "technology transfer" (Mirowski and Sent 2008, p. 635).

Mirowski and Sent thus seem to argue that there is a considerable polarization with respect to the norms guiding the interpretation of this transformation. What is the present development about? How are we to understand what is happening? Are these changes signs of progress or degeneration? One of the things that makes it difficult to assess the arguments on both sides is that the normative opposition is expressed in certain rhetorical figures which render a comparison of the respective arguments from a neutral position difficult to say the least. Proponents of neoliberal doctrine formulate their position in terms of an almost teleological perspective: progress is unavoidable and, therefore, resistance is futile. Conservatism is just nostalgia. As Rosalind Williams has shown in her analysis of the reorganization of MIT, labeling the opponent as conservative or nostalgic is very effective (Williams 2003). The battle between the "motley Cassandras" and the neoliberals has a tendency to become a battle between "memory" and "future" and "history" and "modernity."

Mirowski and Sent propose a third alternative, which the editors of the present volume endorse. The development of the university and of science in society has to be understood, on the system level, as a consequence of a reorganization of knowledge production that opens the university sector to market mechanisms, with the result of making universities, in effect, suppliers of knowledge within a global knowledge economy. With a Marxian, critical-analytical approach, Mirowski and Sent attempt to analyze academia not in terms of its *becoming* integrated into the global economy but in terms of how this integration is achieved and what role the universities play in the economic system over time. The institutions of late modernity are coupled with an organization of the economy that outsources R&D from industry to the university, and with this arrangement also comes a new research policy (Elzinga 2004). Slaughter and Leslie (1997: 8–9) have termed the consequences of this change *academic capitalism*, defining capitalism as a system where "allocation decisions are driven by market forces." In practice, the penetration of the market mechanism in the USA, Australia, and Canada, as they have shown, is intimately connected to the withdrawal of state funding of both teaching and research (Slaughter and Leslie 1997). When funding from the public sector dwindles, universities become dependent on other means and are thus more subject to the market mechanism. But the marketization of knowledge production and knowledge distribution can only occur within a specific legal framework and particular judicial arrangements. The development of patent legislation and patent policies has been explored by a number of authors during the last two decades (Slaughter and Rhoades 1993, 2004; Jasanoff 1995), and it constitutes one aspect of an overall propertization of academia that covers a wide spectrum of phenomena, from the ownership of texts (student essays, articles, books) and course material to the ownership of commercially viable ideas (Slaughter and Rhoades 2004; Mirowski 2011). Propertization has been a central prerequisite for the altered balance of power between universities as organizations and university faculty and has led to a proletarization of segments of the academic labor force that began in the new sector of

internet universities (Noble 2001; Johnson et al. 2003). This development bears a striking similarity to the historical transformation of artisans to workers; when ownership of tools and the knowledge of how to handle them are lost, artisans rapidly lose autonomy, as occurred during the late eighteenth and early nineteenth centuries in Europe (Florén 1987; Florén and Rydén 1992).

Another central aspect of the emergence of academic capitalism is of course its dependence on the emergence what Bob Jessop (2002) has termed "the Schumpeterian workfare state," that is the transformation of the welfare state in the period after 1980. The Schumpeterian workfare state sees its citizens as human capital and assesses their value according to how pliable, disciplined, and well educated they are. Consequently, education policy is central, and citizens should be encouraged to manage their own value on the labor market with care and ingenuity (Jessop et al. 2008). This is a revolutionary change in itself, and we cannot pretend to describe and analyze it fully here. It is connected to the reorganization of the global economy, which turns the welfare state into a subsidiary of global capitalism, transforming the state itself into a business enterprise and tearing down the boundaries between the private and the public sector. This revolution in the conception of the task of government, often referred to as new public management, has instituted new practices with the aid of new ideas and theories about management and leadership derived from the field of business studies. New modes of *governance* (*government* now being perceived as fundamentally old-fashioned) that emphasize quantitatively based evaluation (audit), planning, linear organization, and standardization (Power 1997), as opposed to legal regulation, have permeated every inch of the public sector. In a number of countries, depending upon how the public-private divide was previously construed and organized, the transformation of the public sector has also brought with it the privatization of previously publicly owned enterprises.

In line with previous research in the field of academic capitalism, we perceive the present development not merely nor even primarily as a matter of the commercialization of research results. Rather, academic capitalism is characterized by the marketization, privatization, propertization, and managementization of *knowledge*, a reification and commodification of the activities of research, scholarship, and teaching within the university as an institution. But there is an implicit tension in this process between the market, on the one hand, and organization and hierarchy (management, planning, auditing), on the other. Thus far, planning and regulation seem to override deregulation and the logic of supply and demand and in virtually all issues. There is, however, an exception: quality and value. The market is rapidly becoming what Mirowski (2011) calls an *information processor*. The market thus understood distributes not only wealth and influence but also knowledge, including a specific interpretation of what kind of knowledge is useful, valuable, relevant, and true. Aant Elzinga predicted this development over 20 years ago, for which he coined the phrase *epistemic drift* (Elzinga 1985, 1997). Epistemic drift today is evolving new forms that are directly linked to the price mechanism. What we are experiencing, in a word, is a supply and demand definition of quality: the notions of quality and demand merge. Some work has been done to date on the consequences of these new forms of epistemic drift. The marketization of higher education has contributed to the identification of the student as a consumer, and thus the university

as a supplier, of certification and degrees (Kirp 2003). One concrete consequence of this new relation is grade inflation. Universities have learned to assess the quality of their students' achievements according to a new standard, namely, the consumer's ideas about "value for money." Elite universities, which cater to informed and demanding customers, have therefore been hit harder than less prestigious institutions. This phenomenon is well known in Anglo-Saxon countries, but it can also be seen to have made inroads in South America (Côté and Allahar 2007, 2011). Indeed, education at all levels is increasingly conceived as a commodity (see, for instance, Ball 2007 regarding the British school system). The same trend toward commodification can be seen in research, where the text and its message, the *question* and the *result*, are turned into an object to be capitalized upon in the form of a *publication*. The industrialization of the publication process began long before the advent of academic capitalism, however, having arisen in conjunction with the emergence of big science and the concomitant industrialization of research. Nonetheless, academic capitalism has driven it further, with a helping hand from the bibliometric system, the measures of which are a selling point for science and technology media (Fuller 2000; Cameron 2005; Elzinga 2008). In recent years, new forms for the exploitation of scholarship and scientific results have been developed. "Publication planning," for example, has led to new institutional arrangements and even new professions, such as "knowledge brokers" (Sismondo 2009).

National governments as well as regional actors share the ambition of regulating and adapting the system of higher education and research to meet the demands of the global economy: heightened employability for its students and the development and production of patents and products for the international market. The ultimate aim, or what we have above described as the driving force, is the production of *knowledge as an engine of economic prosperity and growth*. One should be careful when describing the commercial interaction between universities and the business community. Industry has often in the past made use of publicly funded research for its own R&D; what has changed is *government policy toward* this use. Whereas governments previously saw their role as in part that of protecting research and higher education as a common good from special interests, both national governments and international governing bodies have in recent years formulated policies that in effect reject that role as detrimental to the efficient running of the economic motor. The very notion of "innovation" collapses higher education, research, development, and commercialization into a singular aim. This perspective on the point of research and teaching cuts at the very heart of the scientific spirit and academic professional identity. It overlooks the possibility that scientists and scholars are primarily driven by a sense of intellectual responsibility and duty to the community, "science as a vocation," in Weber's terms, not primarily by a desire for profit. With the advent of innovation as the core of the scientific endeavor, the distinction between productivity and quality and utility and value becomes blurred. It is not the market per se that is guiding this development, however, but politicians and policy-makers who have *attributed* this development to the demands of the market. More to the point, it has been forcefully argued that this attribution is a technique for the creation of a pseudo-market. The neoclassical doctrine that, in matters of science as in economics, the government governs best when it governs least is now perceived as naïve and inefficient. Competitive managerial

capitalism has replaced *laisser-faire* capitalism, that is, the aim is not merely to improve market conditions through governmental quietism but actively to create them (Djelic 2007). In economic liberalism thus understood, one cannot assume that the market, or science, has an innate tendency to self-regulation and adjustment through an ideal of competition. Rather, the state must create conditions in which competition arises and thrives (Foucault 2008). This marketization of university research has led to the sweeping changes in the professional identity of academics, comparable to the formation of the new professionalism with the advent of the modern research university at the beginning of the nineteenth century.

However, the realities of the market today are such that this interventionist activism might turn out to be far more deleterious to economic growth than an insulated academy would be. Due to increased specialization and outsourcing, the contemporary market is characterized by a network of interdependencies between suppliers and users, both nationally and internationally, involved in the design, production, and distribution of the end product. This system of relations has tangible consequences for and impact on what kinds of knowledge can contribute to economic benefits, when and where they can be used, and under what circumstances. It is not the case that good science and a good education are related in any simple, transparent, and foreseeable way to good business (Håkansson et al. 2009; Marglin 2008; Ford et al. 2003; Gudeman 2001; van de Ven et al. 1999).

We maintain that the consequences of the adaptation of science and higher education, which are considered by all parties to be pillars of civil society, to a simplified picture of what the market is and how it actually works, that is, to a caricature of market mechanisms rather than its complex reality, are a subject that deserves great scrutiny. One of the starting points of the essays collected here is that we cannot take for granted there is some definitive static "market" with a clear-cut set of requirements for development and growth that can and should be given the roll of identifying and formulating the needs and requirements of a population for perpetuity, be it regional, national, or global. Furthermore, by allowing current established social, political, technological, and business structures to determine what is to be taught, investigated, learnt, and propagated, there is a risk that all future benefits which are not immediately calculable (and predictable) are aborted in advance. Before introducing the specific essays examining alternative ways of construing benefit in the context of the university, let us first consider in somewhat more detail the altered relationship between science and society.

## Politics and Policy

Consider the following illustrative assertions:

> Science has always been at the heart of innovation and continues to be an essential ingredient. Science also makes important indirect contributions to innovation, e.g. by providing impartial scientific advice for policymaking. As most scientific research is carried out by the public sector, a strong and effective public research system is crucial for innovation. (OECD 2010 Innovation Strategy, p. 16)

> World-class institutions can be the anchor for clusters of innovative activity. The major policy challenge is to recognize the essential role of universities in the innovation enterprise, rather than view them, as is all too commonly the case, simply as providers of essential public good. (OECD 2010 Innovation Strategy, p. 16)

> Horizon 2020 will tackle societal challenges by helping to bridge the gap between research and the market by, for example, helping innovative enterprise to develop their technological breakthroughs into viable products with real commercial potential. This market-driven approach will include creating partnerships with the private sector and Member States to bring together the resources needed. (The EU framework for Research and Innovation)

These are all variations on what has become a familiar theme: the university is a central but underutilized direct source of innovation and economic growth. Just decades ago, universities were virtually absent from policy documents concerning commercial development and economic strategy. Today, they are considered the fundament of any such policy. The basic idea behind such formulations is that the results of higher education and research can be brought out of their monastic isolation and into the marketplace through efficient transfer arrangements and, in combination with the right kind of financing and entrepreneurship, lead directly to innovation and economic growth. Economic forces are assumed *prima facie* to bring about both economic and social innovations and benefits, leading automatically to a "greener society", employment opportunities and improved quality of life for the workforce, consumers, and citizens, and a competitive edge on the global market for the region. In short, contemporary national and transnational innovation policy is largely based on a mythological representation of the powers of the market to fulfill the needs, hopes, and desires of a society (Pavitt 2004; Elzinga 2004; Håkansson et al. 2009; Högselius 2010).

The university is portrayed in policy documents as a key to unleashing the vast powers of the market to meet the great expectations inspired by this picture. In order to fill this function, the key has to be adapted to the lock, as it were. If politicians and policy-makers once upon a time saw their role in education and research as protecting the neutrality and integrity of science for the common good based on a faith in the self-regulating and self-propagating internal logic of science, they now see their primary task as tearing down all hindrances to an "efficient" interaction between universities and industry. Thus, the mission of the university must be reconceptualized. It must be adapted to its new primary mission: "Criteria for evaluating research performance should be adjusted to reflect the multiple missions of research institutions, including knowledge transfer" (OECD 2010 Innovation Strategy. p. 16). What is absent from transnational policy documents, however, is reflection on the effects of this "adjustment" on the content of higher education and research (see Hasselberg, Jarrick and Rider in this volume). More strikingly, the question of whether or not it is the case that a university that adapts to current policy trends and political representations of market realities and adjusts the form and content of its educational and research programs to suit them actually contributes to the economical and social well-being of the regions, states, and countries that fund them, is never seriously raised. Rather, that this is the case is taken as an *article of faith*. But what if the economic, social, and cultural costs and losses prove to outweigh the ostensible economic benefits? What if the latter gravitate away from the people and places that

support them, such as can happen when, for example, the industrial or economic infrastructure of the country is simply not as suited for a certain new technique as another? Just because a region has developed a solid research platform within a given technology (presumably at the expense of others) does not mean that it has the wherewithal to embed it in industrial production. In the worst case scenario, the country in which the technology is developed becomes a kind of research banana republic, producing techniques the patents for which are sold cheaply to industries elsewhere. Country x does the research, and country y reaps the economic rewards in the form of jobs and applications (see, Waluszewski this volume).

## Reregulation Through Deregulation

During the last century, the national system of higher education and research has become one of the major posts in the budget for many countries. Thus, it should come as no surprise that it has also become an object of both positive attention and distrustful inspection and surveillance. On the one hand, it is hoped that the university can be made more productive. On the other, it is also thought that through more efficient management, the expected benefits can be accrued at lower costs. With the advent of the mass university, it is natural that policy measures should aim at steering the university toward cost efficiency and measurable social and economic benefits. There exists a variety of national versions of governmental "steering by evaluation," the point of which is in each case to cut costs and increase output, to do more for less (Neave 1988; Bleiklie 1998).

The last few decades bear witness to the influence of new public management on governmental policy in this regard. Research and higher education are to be assessed and evaluated quantitatively to the greatest extent possible. Public accountability is conceived in terms of accountancy (see, e.g., Readings 1996); quality is understood in terms of qualification, as the term is used within economic sociology (Callon et al. 2002; Musselin and Paradeise 2005). Deregulation means in effect that the university is no longer governed by directives, but steered by monetary incentives, that is, increased or decreased funding (Bleiklie 1998; Olson and Sahlin-Andersson 2005; Nowotny et al. 2005; Rider and Jörnesten 2007; Rider 2009).

The changed form of cost governance has opened the door for a number of commercial agents to act as "subcontractors" to politicians and policy-makers. Bibliometric standards, such as JIF and the ISI-index, are now the final arbiters of how to define and quantify research output and the quality thereof (Gläser and Laudel 2007; Wedlin 2011). The result is a publication industry that determines the form and, increasingly, even the content of academic research and scholarship instrumentally and mechanically (see Bennich-Björkman and Täljedal on effects on research, and Gustavsson, Rider, and Ankarloo & Friberg on effects on teaching in this volume).

The altered form of benefit governance is due largely to the influence of neoliberal market theory on EU-legislation, which does not allow member states to create governmental bodies to support customers for new technologies, or otherwise favor domestic interests (Högselius 2010; Edquist et al. 2000). This may explain why

both the EU and individual member states have been so quick to adopt the OECD hypothesis of the unity of research and innovation as well as its correlative, the combination of transfer and market-like arrangements to foster both (see Eklund, Widmalm and Hyvönen in this volume, as well as Lundvall and Borrás 2005; Elzinga 2004; Högselius 2010).

## The Business of Research

> The University of Cambridge will be hosting the conference on the 17th March to discuss how industry and academia can foster even more effective relationships. The Horizon R&D Management conference will enable companies and academics to talk through the continued global trend towards "outsourcing" R&D at research institutions, opening debate on the most effective mechanisms for enabling and managing this. […] Markus Bayegan, Chief Technology Officer responsible for Group R&D and technology, said: "Developing relationships with the leading research universities in the US, Europe and Asia is a key element in our global R&D strategy. We have been working closely with Cambridge University for more than four years, and this mutual exchange of ideas and information is proving invaluable in helping to encourage some of the best young researchers in the world as well as giving ABB access to the latest developments in emerging technologies." (ABB press release 2011)

> KI Innovations promotes the results of biomedical research to develop new products and applications for the improvement of global health and well-being. KI Innovations provides the means for researchers at the Karolinska Institutet and other Nordic universities to develop their research results commercially. KI Innovations manages and finances the first steps of the development process by offering project management, funding for patent protection, legal advice and business development. It also allows researchers access to an extensive network of contacts within the international pharmaceutical industry. (www.karolinskainnovations.ki.se)

In comparison with the current globally interdependent world of business, the "market" to which academic research and teaching is being adapted is strikingly simple. It presupposes that commercialized research results can be tailored to correspond perfectly to a set of fixed problems having to do with the complicated challenges of climactic change, the supply of food and water, public health, and so forth, without any hindrances presented by the issue of how exactly these results are to be put into large-scale production and use, such as the distressing detail that economic actors already have "investments in place" (Utterback and Abernathy 1975). The editors share the view that has emerged from recent research (Håkansson et al. 2009; Marglin 2008; Gudeman 2001; van de Ven et al. 1999; Hughes 1983, 1987; Rosenberg 1982, 1994) that the very real influence of established social, political, organizational, technological, and economic interdependencies tends to be neglected in this abstract and naïve representation of market forces.

The basic assumptions of policy documents notwithstanding, the business landscape has been fundamentally altered by globalization in the course of the last few decades, in particular with regard to the economic interdependency between supplier, producer, and end user (Håkansson et al. 2009; Ford et al. 2003; Piore 1992; Piore and

Sabel 1984). If a contemporary business actor is to utilize the university as a source of potential innovations, there are two options, as illustrated by the quotations above, both of which require that the resources of the university are adapted to very specific needs. One is that the university adapts to venture capital financing, that is, investments resting on "betting" that a particular commercialized resource will be able to attract new investors based on future expectations of a commercial success. The other is that the university adapts to companies' outsourcing of R&D activities, that is, where a university research unit engages in specific problem-solving projects (see Hyvönen in this volume). What both of these routes have in common is that they in general are based on a special kind of economic actor, namely, one with enough financial muscle to succeed in such endeavors. In either case, the university will be faced with very particular requirements and the necessity to adapt the renewal work in a way that makes best use of the investments that already are made in the supplier and user network into which the new solutions are to be embedded. Hence, if the contemporary business actor is going to be able to increase its direct utilization of the outcome of the university, the latter has to be adapted to very definite needs (Baraldi and Waluszewski 2011; Ingemansson 2010; Håkansson et al. 2009). But is the basic mission of the university to act as an efficient middleman for industrial and economic interests? And what are the costs and consequences of such a radical reconceiving of the point and purpose of publicly funded research and higher education?

## The Business of Teaching

In current debate concerning the present state and future of the university, it is common to contrast contemporary trends ("mode 2," triple helix, innovation system, etc.), on the one hand, with the Humboldtian ideals of *Lehrfreiheit* and *Lehrnfreiheit*, the unity of teaching and research, and the emphasis on character formation, on the other.[1] Defenders of the latter typically come from the humanities and certain social

[1] The concepts "mode 1" and "mode 2" were first introduced in Gibbons et al. (1994), to describe how science was moving from being a relatively autonomous activity to one which was increasingly being adapted to stakeholder needs and interests, where the value of research is seen as context- and use-dependent. In "mode 2", scientific activity and its results are evaluated in terms of social and economic value, rather than with a view to purely intra-scientific standards, practices, and criteria. In Nowotny et al. (2001), the authors suggest that we are moving away from a model of "reliable knowledge" as the goal of science to "socially robust knowledge." Playing on the term "double helix," which refers to the structure formed by double-stranded molecules of nucleic acids such as DNA and RNA, Leydesdorff and Etkowitz launched the notion of a triple-stranded relation to describe a structure of innovation in which the university, industry, and administrative agencies and authorities interact, where the university is a motor for economic and social development in a knowledge-based society (Leydesdorff and Etkowitz 2000). There has been heated discussion during the course of the last two decades concerning these models. The academic capitalism debate was particularly lively at the turn of the millennium. See, for example, Etkowitz and Leydesdorff (1997), Bok (2003), Geiger (2004), Stein (2004), Washburn (2005) and Slaughter and Rhoades (2004).

sciences and are inclined to see the commercialization and instrumentalization of higher education and research as both a cause and a symptom of the decline of the intellectual and cultural values that they take the humanities both to express and to inculcate.[2] Thus, research on higher education tends to be focused *either* on research, in the case of the natural sciences and medicine, *or* on teaching, in the case of the humanities. But whereas research on research has emphasized the intimate connection between conditioning forces and organizational structures on what research is actually done, the debate on higher education has a tendency to describe the connection in terms of what is *not* done (e.g., that due to economic incentives, students flock to courses in business and away from the humanities). There is relatively little analysis of how the new forms of higher education (understood as teaching and learning rather than the structures surrounding these) resulting from such incentives transforms the content. In short, there is not much in the way of conceptual analysis concerning what it *means* to engage in teaching and learning at the university level. Two worthy names that have deservedly received attention are Readings 1996 and Evans 2004, but these influential interventions should inspire further studies in the same spirit that provide the kind of detailed analysis of specific phenomena that has attended studies of research policy.

## A Transformation Resulting in the Breakdown of Scientific Thought

The subtitle of the present work, *The Breakdown of Scientific Thought*, is intended to signal the consequences of the transformation sketched above. Today's solution to the challenges of the knowledge society is to use the university as a means to achieve every conceivable economic or social end: growth, innovation, equality, etc. These overriding aims are used to justify the privatization of knowledge, create competition between both individuals and organizations, and force universities and research councils to adapt to political purposes that can conflict with the unbiased search for truth and understanding of our common world. This anthology, based on papers delivered at a national interdisciplinary symposium held in Uppsala, explores various aspects of the idea of the university as a free market of ideas. The focus of the symposium was the academic publication market and its role in determining how scientific and scholarly value is assessed and resources for teaching and research are allocated. One of the main goals of the symposium was to start working on alternative solutions to the ones dominating current trends in research policy.

[2] Perhaps, the most influential of these was Readings (Readings 1996), but there have been a slew of other critics with similar errands: to take two recent examples, Donoghue argues that the battle is already lost (Donoghue 2008); Nussbaum (2010) is a plea not to admit defeat just yet.

The following essays concern the consequences of the application of market principles (or rather managerialism disguised as market principles) on academic norms. The contributions address phenomena such as bibliometrics in terms of the overall tendency to assess and control science and scholarship quantitatively, mechanically, and instrumentally, as well as issues associated with the intensified commercialization of scientific research and communication. The leitmotif running through the essays is the issue of intended as well as unintended consequences of present policy in research and higher education for the university and for the society that it serves.

The book is divided into four sections, corresponding to four overriding themes:

1. The breakdown of the division between politics and policy, on the one hand, and education and research, on the other
2. The breakdown of the division between market and innovation models, on the one hand, and academic norms, on the other
3. The breakdown of academic character in research and scholarship
4. The breakdown of the academic character of higher education

## *Part One: Politics and Policy*

The first essay in this section, "Power – Knowledge – Morals: Society in the Age of Hybrid Research," by Thorsten Nybom, offers a perspective on the contemporary political and policy intervening in university research and education by discussing what specific normative systems and moral foundations should ideally characterize politics, research, and bureaucracy, respectively. The author argues that the necessary demarcations between these crucial spheres of social action have gradually become blurred, which has often lead to detrimental consequences for their legitimacy in present-day society. Referring primarily to Max Weber's famous essays from 1919 – "Science and Politics as a Vocation" – he pleads the case that these complementary systems of values and norms should be reestablished and respected.

The second essay, "Innovation and Control: Performative Research Policy in Sweden," by Sven Widmalm, outlines the growth of an "innovation paradigm" in Swedish research policy from the 1990s and analyzes how this paradigm is expressed in the government's recent research policy bill that is currently being implemented. The discussion of the bill highlights a number of apparent paradoxes. First, the bill uses the notions of basis research and innovation interchangeably. Thus, for example, it proposes to increase the Swedish Research Council's resources for supporting basic research, but it also demands that the council directs more of its resources to support work that is important for the country's high-tech industry. Second, the bill strongly emphasizes economic as well as academic competition. Scientific and economic competitions are described as if there was no significant difference between the two. The bill assumes,

for instance, that the quality of research can be measured by its success on a (publishing) market. The analysis of the bill relies on the notion of performativity. The bill is seen as a performative act aiming simultaneously to change the practices of research and the language in which it is discussed. If the bill's policies succeed, the paradoxes mentioned above will fade away as traditional research practice disappears.

The third essay, "The Scientific Mission and the Freedom of Research," by Arne Jarrick, takes at its starting point that an academic scientist or scholar, regardless of discipline, must be to produce knowledge, rather than mere opinion. By virtue of his fulfilling this mission, he also supports and contributes to a form of deliberative dialogue, the *sine qua non* for citizenship in liberal democracies, in which argument on the basis of fact and coherence, rather than rhetorical tricks and powers of persuasion, is decisive. Demands for social relevance and usefulness ought to be seen in light of this mission, rather than in terms of political utility or commercial gain. In this sense, the requirement that the university produce useful knowledge is entirely commensurable with academic freedom, provided that politicians, administrators, and business leaders recognize that they cannot determine what questions ought to be asked or how best to answer them, but leave that matter to scientists and scholars to decide.

## *Part Two: Economic Models*

The first essay of this section, "Contemporary Research and Innovation Policy: A Double Disservice?" by Alexandra Waluszewski, examines the underlying assumptions of contemporary transnational innovation politics and policy, in particular from the frustrated point of view of European policy practitioners. The policy practitioner's dilemma is this: how are we to attain national effects through policy investments when the business landscape is characterized by interdependent, transnational business networks? The EU policy commissioners expected the policy practitioners' actions to boost research and technological development, which would then result in innovation and industrial renewal within the investing nation or region. The best scenario, sketched by the governmental commission, was that the policy practitioners' actions in terms of research and technological support would lead to innovation, new or renewed companies, increased investments, employment, tax income, and growth. It was taken for granted that these benefits would occur within the borders of the community that made the policy investments. The result of implementation, however, turned out to be almost the opposite: public policy investments tended to "gravitate" to other regions and other economic actors than those intended.

The second essay, "The Foundations of Knowledge According to the Knowledge Foundation," by Mats Hyvönen, examines how the concept of innovation is used to transfer funding from teaching and research to business and transform the concept of the social to the concept of the economic, through an examination of one Swedish research council, the Knowledge Foundation. In its most ambitious scheme to date,

the funding of so-called KK environments, the aim is to support the integration of research and teaching at regional colleges with regional industries and individual companies. The interests of major actors in business and industry are systematically described as the interests of "society" or "the region." College teachers and scholars, especially in the social sciences and the humanities, are pressured to produce educational programs and research that are considered desirable for these actors or see their disciplines disappear. In short, they must choose between economic or professional bankruptcy.

The third essay in this section, "Science Policy in a Socially Embedded Economy," by Magnus Eklund, studies the consequences for science policy when deductive neoclassical economics is replaced with the idea of a socially embedded economy in policy discourse. For neoclassicals, science was exogenous to the economic system and thus not subjected to orthodox economic policy. If the economy instead is viewed as socially embedded, science becomes an integral part of the economy and can be made into a legitimate target for economic policy. In the postwar period, innovation theory distanced itself from neoclassical economics and focused on how the socioeconomic environment affected innovation. New concepts emerged, such as the innovation system concept, which could be used to treat science in an instrumental way and reduce its function to facilitate innovation, even though many of the original academic founders of the concept had no such intentions. The emergence of the Governmental Agency for Innovation Systems (VINNOVA) in Sweden 2001 is used to illustrate how the new innovation thinking could be used to legitimate a more instrumental treatment of universities.

## *Part Three: Research and Scholarship*

The first essay in this section, "Down the Slippery-Slope: The Perils of the Academic Research Industry," by Li-Bennich Björkman, describes a move into what can be called the era of the academic research industry. To write and "produce" more in less time has become a value in itself, rhetorically accompanied by claims that it needs to be "cutting edge" and to achieve excellence. Because research is much like performing arts, the advantages of scale, however, are illusory. The equation of more and *better* research in less time is hard to achieve because of the inherent logic of creativity in research: the time-consuming activities of experimentation and failure. The overall perils of the industrialization of academic research lie in that these insights, that we need to allow for risk-taking and the acceptance of genuine uncertainty, are buried in all the more elaborate efforts of time and space management that deceptively make us feel as if we are in control. As a consequence of the "slippery-slope" effect, where you do not notice each individual step along the treacherous path, academic researchers more or less tacitly accept these efficiency practices and norms evolving within the research industry, practices that actually may destroy or irrevocably damage necessary preconditions for original research, innovation, and discovery.

The second essay, "In Defence of Discretion," by Ylva Hasselberg examines the idea of research as a calling, in contrast to the de-professionalized research culture that she sees developing. The new professionalism, in the author's view, lacks the key factor of a value-based standard for good work. Instead, the new professional ethics has as its starting point the rejection of all values except instrumentality. Research and higher education, the last bastions of independent professional judgment, have now also fallen victim to "good governance." The consequences of the loss of independent judgment in academe are vast, since one of main justifications for the existence of universities is to train and develop the capacity for professional judgment in all fields.

The third essay, "Publish and Perish: A Note on a Collapsing Academic Authorship," by Inge-Bert Täljedal, argues that conscientious authorship is fundamental to academic culture. By going public in words, one demands recognition for the merits of one's research and accepts being the legitimate target of justified criticism. The writing of a scientific text is thus an intellectually and morally committing undertaking. Today, however, there are signs indicating that this traditional view of science is no longer self-evident. The article expresses concern over the threat to intellectual standards that is represented by a growing acceptance of phenomena such as collective authorship, honorary or gift authorship, ghost writing, and commercially inspired subterfuge and deviousness, most spectacularly exemplified by phony authorships in the trials of new drugs. It is suggested that a widespread and complacent tolerance for a certain amount of phony authorship in every corner of the medical world makes it tempting for the industry to put this kind of deviance into systematic use for commercial gain.

## *Part Four: Higher Education*

In the first essay in this section, "Methodomania," Michael Gustavsson studies the academization of vocational and professional training. It has long been thought that bringing previously nonacademic occupational training programs into the academy would increase both the quality and status of that training. Nursing and teaching's training were among the first such programs to be integrated into the university and construed as "sciences" in their own right. The academization process has since then expanded exponentially, today including accredited tertiary-education courses and programs in golf coaching and pet-store management. Concurrent with the trend of academization of occupational training, we can see a de-academization of traditional subjects, as these are required to take into consideration market requirements and consumer demands. The result is that tendencies merge in a homogenized form of academic organization and academic practice. The mass university requires flexible and manageable solutions. These usually take the form of standardized routines with regard to methods and forms of presentation, which are taught through the use of standardized manuals and handbooks. The author argues that the Bologna reforms legitimate and exacerbate this trend and describes how the focus on method, design, and disposition in the composition of essays and reports alters what the student is taught about scientific method and therefore how he conceives of it.

The second essay, "Higher Heteronomy: Thinking through Modern University Education," by Sharon Rider, addresses certain presuppositions which, the author argues, undergird the Bologna process. These implicit epistemological assumptions are considered in light of theoretical and practical discussions concerning the legitimate aims and appropriate means to achieve them when the ideals of the modern research university first developed during the Enlightenment. In particular, the chapter focuses on the idea that the aim of higher education is most importantly to cultivate the capacity for *sound judgment*. This ideal is then compared to the tools implemented in accordance with the Bologna process, which explicitly aim at standardization, measurability, and predictability of both process and product (outcomes). In particular, the notion of "constructive alignment" and related notions are examined, and it is demonstrated that these indicate a shift of focus from training in a discipline as necessary for the capacity for judgment, to the form, where subject matter is conceived as extraneous to the achievement of desired outcomes (skills and competencies). The essay argues that the Bologna model undermines the goals of liberal education by training students not to exercise independent judgment, but to follow blindly formal protocols.

The third article, "The Academic Contract: From 'Simply a Metaphor' to Technology," by Torbjörn Friberg and Daniel Ankarloo, starts with the observation that higher education, like other public authorities and organizations, has in the last decades undergone major changes. The academy has come to adapt to trends in the private sector, where efficiency, quantitative measurements, and increased productivity are the preeminent values. As a consequence, it has become increasingly common for academics themselves to adopt the language and thought-forms of the market, such as the currently prevalent use of the idea of a "contract." This chapter analyzes the concept of "contract" as it is used to motivate actors in the academy in a certain way and evaluate to what extent they achieve the aims of the introduction of the concept. The essay concludes that the concept of the contract in an academic context must be seen as a point of reference, the purpose of which is to facilitate the governance of the academic subject by policy-makers and administrators. The author calls for a self-conception among academics in which they view their practice in a wider social and political context.

In the final chapter, we offer a synopsis of what the ultimate lessons to be drawn from these interrogations of our current situation and attempt to describe, on the basis of them, the consequences of different courses of action and prescribe alternatives to the ones being offered at present.

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# Part I
# Politics and Policy

# Chapter 2
# Power, Knowledge, Morals: Society in the Age of Hybrid Research

**Thorsten Nybom**

## Introduction

In this essay, I will try to discuss what specific practices, intrinsic value bases, and spheres of competence should ideally characterize three of the most important and interrelated, but yet separate collective arenas or systems of authority that, in my view, still constitute the "*necessities permanents*" in modern liberal-democratic society: politics, systematic research or science, and public administration.[1] I will further argue that precisely by strictly upholding and respecting their respective and specific normative systems and institutional practices, their separate and joint contributions to society will become optimal. I will also, at least, briefly touch upon the role played by modern media as a fundamentally new type of arena of authority in western democratic society and particularly what I consider to be its distorting impact on the existing, traditionally, democratically based systems of authority and power.

## Politics

Should the same moral imperatives and principles be valid and applied in politics as in a person's private life? As seen from Max Weber's distinction in his famous lecture *Politik als Beruf* (1921/1958) between *Gesinnungsethik* (the ethics of conviction) and *Verantwortungsethik* (the ethics of responsibility), I would argue that there are

[1] In my deliberations, I am leaving out the important arenas of economy/market and art.

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two kinds of moral stances, which involve fundamentally different areas of responsibility and relevance, and that a genuinely responsible exercise of political power must be anchored in the latter type of fundamental moral stance.[2] Accordingly, there should be a clear line of demarcation between *the private ethics of conviction* and *the public ethics of responsibility*. The blurring of this distinction, I argue, poses a serious threat to the well-being of both science and society.

## *Gesinnungsethik: Ethics of Conviction*

*The ethics of conviction* – as expressed in the *Sermon on the Mount* (Matthew 5–7) – is uncompromising and imperative. Its followers cannot consider the eventual fatal or "collateral damages" or consequences. The salvation of one's own soul makes other considerations more or less irrelevant. *The ethics of conviction* might certainly be desirable – or even ideal – as the foundation of private morals, but in public politics, it runs the risk of turning into ruthlessness, which not seldom might turn into absolute evil because one is not liable for the consequences. Partly because its ultimate and promised goal is worth any sacrifice, partly because the ultimate responsibility for actions taken does not lie with the instigator or proponent of this ethical stance but in the hands of the opponent, i.e., the person/movement/ethnic group, who "refuses to recognize and obey to the will of God (theocracy), to listen to the Voice of the Blood (Nazism), or to accept the logic of eternal/economic natural laws (Leninism/Neoliberalism)."

In order to prosper and succeed, the proponents of *the ethics of conviction* in politics have a tendency to declare an almost permanent state of emergency because, for them, the inner and outer immoral enemies are "always at the gates." At the same time, they are usually notoriously imprecise regarding their temporal horizon. Occasionally, and not only in the case of more or less theocratic regimes, the desired and promised Kingdom of Heaven is even situated in the hereafter. Its common form of communication is the dogmatic monologue not discussion. Science, evidence, demonstration, and considered experience are as such of no particular interest. Nor are questions concerning true or false. In *the ethics of conviction,* nothing other than "good or evil" really matters. Occasional references to scientific- or evidence-based knowledge are purely instrumental, appealed to only insofar as they serve "the cause."

It is therefore no coincidence that piecemeal social engineering of the Popper and Myrdal mode has been condemned as its ultimate and mortal political enemy, regardless of what shade of the political spectrum these protagonists represent. As ideal types of this particular mode of political stance during the last 600 years, with

[2] *Politik als Beruf,* the second lecture he was invited to give by the left-liberal students in Munich, was delivered in 1919. The first lecture, *Wissenschaft als Beruf*, he delivered already in 1917, below p. 25.

no other points of comparison intended, I would suggest the following as representative cases: Savonarola, Robespierre, Lenin, Goebbels, Thatcher, Ahmadinejad, and Netanyahu.

## *Verantwortungsethik: Ethics of Responsibility*

The fundamental basis for *the ethics of responsibility* in politics remains the obvious and brutal fact that the essence of politics always is, and will remain, about the exercise of power *over and against others*. Thus, the glory as well misery of politics lies in the insight and recognition that political action tends to be an almost never-ending process of balancing and weighing long-term – sometimes more or less eternal – values and obligations against the immediate demands of current political affairs.

*The ethics of responsibility*, however, has nothing to do with unprincipled opportunism, as is conventionally claimed, since it requires that one clearly shows, not only the premises for, but also the consequences of, these decisions. An ideal-typical example, in my judgment, would be the actions taken by the Swedish government during the Second World War (Nybom 1997a: 108–109). This view is regularly contested by latter-day "*Gesinnungsethiker*" – most recently by Klas Åmark in his history of Sweden during WWII, (Åmark 2011) where he *judges* the Swedish government's policy as basically "immoral." He does so with "the benefit of hindsight" (and without presenting *any new evidence* for his case) merely referring to what the government should have done *according to his and other Gesinnungsethiker's present public opinion*! Thus, the historian, in this and other almost numberless cases, uses his/her own present-day moral code to decide whom among *the deceased* decision-makers ought to be counted among the angels and which among condemned.

*The ethics of responsibility* does not at all imply the absence or irrelevance of internal principles and a solid value system; rather, without these necessary prerequisites in place, political actions become senseless. Moreover, politics is subject to an absolute imperative of action. Further, it does not allow the politicians to reduce their activity to making the decisions they wish to make; they must at every moment be prepared to make decisions they are obliged or, by circumstances, even forced to make. If these decisions should imply a breach of faith and trust, then they have to shoulder the responsibility – and perhaps even resign.

Politics has no divine or "higher" origin, which the protagonists of *Gesinnungsethik* seem to believe. It is – in the deepest and finest sense of the word – a *human* activity: together with modern science, democratic politics constitute two of the perhaps most genuine expressions of man's eternal desire for increased communality, knowledge, and rationality. Modern politics emerged out of a gradually growing insight and understanding that a decent and reasonably just society, in order to function, requires a certain degree of consensus, cooperation, force, and justice, and that this utterly delicate combination can only be achieved if there is a reasonable balance between power and responsibility, on the one hand, and efficiency and respect, on the other. Perhaps especially today, there is all the more reason to point out that

modern politics emerged not only in opposition to the injustices of the existing more less absolutist *ancien régime*, it was also, and not least, a conscious response to the socially destructive forces of the emerging market economy. It was not supposed to be a humble servant of the market, but to take precedence in the last instance. This last basic premise was never really challenged until the 1920s, with subsequent disastrous consequences. After the 1980s, we seem to have forgotten again the hard lessons of the 1930s and 1940s – with, as yet, unknown long-term effects and consequences.

Thus, even if my *plaidoyer, "In Defense of Politics,"* to use the title of Bernard Crick's classical book from 1962, might be seen as slightly pathetic, there nevertheless seems to be an urgent need to repeat and stress certain eternal imperatives of politics: politics is only partly about fulfilling one's immediate personal wishes, and it has certainly only marginally to do with "public appearance," as today's medially infantilized politicians seem to think. Politics is about acting and assuming full responsibility for actions taken. A politician has an imperative duty to govern, and not only to administer, a duty all present European governments, including Sweden's, hardly seem to have considered, much less understood.

In order to illustrate what I here, in rather crude and polemic terms, have argued, and also to help to restore the crucial demarcation line between public and private – between *Gesinnungsethik* and *Verantwortungsethik* – which in these media-dominated and even media-perverted times has been almost obliterated, I quote the response Abraham Lincoln gave the militant abolitionist Horace Greeley when, in the midst of raging civil war, the latter demanded that the President immediately and totally should abolish slavery:

> My paramount object in this struggle is to save the Union, and is not either to save or destroy slavery. If I could save the Union without freeing any slave, I would do it; and if I could do it by freeing all the slaves, I would do it; and if I could do it by freeing some and leaving others alone, I would also do that. What I do about slavery and the colored race, I do because I believe it helps to save the Union, and what I forbear, I forbear because I do not believe it would help to save the Union … *I have here stated my purpose according to my view of official duty, and I intend no modification of my oft expressed personal opinion that all men, everywhere, could be free.* (Lincoln 1989, 1859–1865: 358 – my italics)

## Science and Research

With the steadily growing importance of scientific knowledge and systematic research, its relation to and impact on social action stands out as one of the most burning and crucial issues of the future.[3] The main reason why the relations and interplay between politics, bureaucracy, and science have acquired this central importance is that it is primarily through these collective forms of action and the search for knowledge that

[3] When using the concepts "science" and "scientific," I am referring to the German concept of "Wissenschaft," which includes all fields of scientific and scholarly knowledge.

we can maintain the degree of rationality, efficiency, and communality necessary for a positive development of society. These institutional forms cannot be isolated from each other, but instead constitute communicating vessels, and it is to be hoped each other's correctives. At the same time, it is nevertheless necessary to maintain clear lines of demarcation between these different forms of human action and strictly define their respective areas of relevance and competence. This fundamental insight brings me once more back to Max Weber, this time to his almost lifelong reflections on values and value foundations in science, i.e., to the discussion on the role and character of science and research in modern society (Weber 1922/1968b).

## *Academic Norms and the Central Task of Science*

Weber's famous plea or even demand for *Wertfreiheit* in science and research did not imply that he wanted to restrict scientific work to the production of "value-neutral" knowledge or data production. Rather, he argued that the central task of modern science and systematic research was constantly to expand our understanding of a world. This had gradually become even more urgent in emergent modern bureaucratic and rationalistic society. This obligation, according to Weber, was in particular tied to the necessary defense of basic cultural, moral, and intellectual values, which modern society, through its sheer efficiency and pure rationality, threatened to destroy. Science, like all other cultural – i.e., human – activities, acquired its ultimate meaning by its anchorage in a specific set of fundamental values, *Wertbezogenheit*.

In science and research, according to Weber, this *Wertbezogenheit* was even double, partly through its anchorage in a specific internal value hierarchy and partly through its association with an overall societal value hierarchy. The internal normative base prescribed that science must refrain from questions concerning the meaning of life, i.e., what is right, good, and beautiful. On the contrary, Weber argued that the enormous growth in prestige of modern science *and* its huge direct and indirect contributions to society's progress and welfare was actually due to its early abandonment of such ambitions.

Thus, the *Wertbezogenheit* of science does not mean that it claims any superior or exclusive competence to comment on the preferential structures in other social spheres, or on the value foundations of life and politics. The scientists must understand and recognize that decisions regarding for instance political and esthetic preferences can never be based on science, but they can – and should – very well be informed and qualified by science. Hence, science can identify and point to inconsistencies between the actual decisions and formally stated values and goals, as well as between prescribed means and officially declared ends; in addition, it may also demonstrate inconsistencies and incompatibilities between officially stated values and goals.

Precisely by carefully respecting and staying within its particular sphere of expertise and competence, science and research would be able to make contributions that would gradually increase the level of rationality in society. But to be able

to play this role, science and research must remain both exclusive and transparent at the same time. Thus, according to Weber, it was imperative that science and research strictly adhere to and maintain its own specific normative system, its own specific practice, and its own institutional arrangements. Science does not become practically significant and relevant, as Marx argued, by exceeding itself (*Aufhebung*) but rather, paradoxically, by strictly keeping within its own normative and epistemological boundaries. Science and research are therefore, by no means, "without value" and barely instrumental. On the contrary, the ultimate rationale behind modern science is founded in the secularized man's endeavor to master the world, to understand his origin, and – to the best of his ability – to plan for his future. Without commitment to these eternal goals, science and research are, and will remain, literally worthless.

Such an essentially moralistic vision of the tasks of science and research should also imply that one must renounce any hopes that scientific theory and practice, in itself, would also contribute to refining its practitioners' political, cultural, ethical, and esthetic moral character. A science that deliberately limits its area of relevance is "character formatting" only insofar as it could possibly convey a specific sense of professional rigidity, which the researcher hopefully could also apply to his or her own everyday civic actions.

## *Epistemic Drift and Poly-cratic Research Institutions*

The conscious attempts actively to support the "socialization" of science and accordingly also the "scientification" of society that were made in 1970s had far-reaching epistemological as well as sociological implications for the conduct of science and research. These measures posed an obvious threat to the specific self-understanding and identity that had constituted the scientific community for a century which could ultimately lead to its dissolution. Until then, scientific quality assessments had been a joint internal academic affair and prerogative. Loyalty had ultimately been toward the internal normative system: i.e., the set of minimum demands that at least formally legitimated science as science.

During the 1970s, there was a trend toward transforming established research institutions, disciplines, and fields of research into political and economic vehicles, and deliberately integrating them into different policy reform coalitions and grand-scale reform projects. This among other things led to the emergence of a cadre of researchers that appropriately must be labeled "hybrid researchers," with at least partially new frames of reference, loyalties, and norms, even if they were still formally affiliated with traditional academic research institutions (Elzinga 1985: 191–220).

The original social contract, which emerged in the first of the nineteenth century between science/research and society regarding its relevance and usefulness for society, had been formulated by society *as such* against research *as such* (Nybom 2007: 61–70). Accordingly, it was the *entire scientific endeavor* that was considered

to be relevant and useful. The socialization of science/research process gradually led to a transformation or even perversion of that concept where "relevance" and "usefulness" gradually became synonymous with the ability to fulfill the more or less immediate and often short-term needs and demands of different societal "stakeholders," purchaser, or principal funders. This also implied that decisions in regard to the establishment of new research fields and research focus shifted from the scientific and academic community to a stratum of decision-makers that could properly be defined as *poly-crats*. Subsequently, the shift also had substantial implications for research funding, career patterns, and institution building.

In its most developed form, this process led to an almost complete symbiosis between hybrid researchers and different parts of the private/public bureaucracy. Together with their designated areas of politics and business, they constituted a new hybrid structure where competences and formal responsibility became blurred. This process did not just mean that substantial parts of publicly and privately funded research became in a very crude sense immediately "applied" or commissioned; it also led to a situation where the different roles, responsibility, and ethos of the scientists, planners, and public/private decision-makers became more or less interchangeable.

As stated earlier, the hybrid researchers' primary loyalty did not concern the norms of a particular discipline or the research community but instead the demands of the associated and powerful societal actors. More often than not, the researchers did not only provide their "stakeholders" with relevant data for optimal decision-making. They also actively participate in the actual implementation process and – more importantly and more ominously – they provided a suitable ideological superstructure for the decisions taken as well. And perhaps even more dangerous and fatal for the legitimacy of the entire scientific endeavor was the stated readiness on the part of hybrid researches to provide definite and swift "solutions" to a number of highly complicated problems in modern society (Nybom 1997a: 131–135).

The disciplines of education and economics might serve as the most thoroughgoing and even "ideal-typical" examples of this symbiosis. In these specific fields of research, one could talk of a more or less complete amalgamation of research, political reform work, and ideology production. Even in their professional careers, educational researchers and economists had no qualms about oscillating between the roles of researcher, embedded expert, and political executor. The end result was a type of research work in which the superior objective was certainly not an ambition to "speak truth to power" (Wildawsky 1979) but to provide a kind of scientific legitimacy and "academic" sanction to specific political/economic decisions and their underlying ideological foundation.

With reference to Swedish educational research, it would probably be unassailable to claim that its ideological ambitions and policy impact very soon surpassed its intra-scientific relevance and academic standing. Thus, it would also be fair to say that its growth in political influence coincided with an equally rapidly growing intellectual impoverishment and academic irrelevance. Already in the late 1970s, it became quite clear that this expansive discipline was no longer able to compete successfully for traditional peer review-based funding with other social science

disciplines (Nybom and Stenlund 2004: 80). Thus, this "hybrid sector" had to be saved by the introduction of different types of "protected" politicized funding lines, which secured its continued operations but certainly not its academic standing. Hopefully, one of the few positive effects of the ongoing global financial crisis may be that the equally arrogant and intellectually compromised discipline of Economics will be hit by an equally profound crisis of legitimacy as Education (Krugman 2009; McCloskey 1995).

But the process of hybridization did not only penetrate a limited number of disciplines. In reality, it also affected the entire process of discipline formation (Forman 2002). Most subdisciplines and research fields that were established during the last 30–40 years, particularly in the social and cultural sciences, have almost, without exception, had "social" or pronounced instrumental motivations and prefixes. This practice reflects a belief that scientific development and the growth of knowledge should be regarded as a direct function of bureaucratically, economically, and politically defined problems.

Thus, discipline formation, which had traditionally been seen as a generic scientific process reflecting the growth and expansion of science-based knowledge, has gradually turned into a *poly-cratic* prerogative and responsibility. Universities and traditional disciplines and fields of knowledge have therefore no longer either a self-evident, let alone exclusive, right or competence to decide in these matters, since the disciplinary expansion and differentiation is nowadays not tied to the actual growth of science-based knowledge. It is in this context one should also, at least partly, understand the eager demands for a variety of "problem-based," ideologically warranted "interdisciplinary research."

If this development only meant that hybrid research was gradually undermining its own legitimacy, it would be fairly unproblematic. What is unfortunate, however, is that this dissolution process gradually undermines the legitimacy of science and research in general, and hence also its traditional claim for relative professional and institutional autonomy. To halt and even reverse this process, the research representatives must understand and underwrite Max Weber's dictum that the lecture hall should be embedded in an institutional and normative order that is fundamentally autonomous and sometimes even in open opposition to the bureaucratic and political spheres of society (and today, perhaps also or even especially the power of the media).

In addition, one should continuously point out that the claim of science for relative autonomy is not only – or even primarily – for the science's own sake, but that it must be maintained for the sake of society. To its numerous external and internal slanderers, the representatives of science should point out that autonomy and the ivory tower are by no means synonymous concepts. Furthermore, it must realize that an academic discipline and the university system that assume the role and obligation of ideology producer have condemned themselves not only to intellectual but also to practical-political irrelevance – at least in the long-term perspective. This insight is particularly relevant for the social and cultural sciences.

## *Mertonian Norms in the Information Society: The Medialization of Science*

Like the medialization of politics and its ensuing constant mix-up of the public and private spheres, the conflict between traditional academic science and hybrid research is further reinforced by the fact that the latter normally operates in a more or less symbiotic relationship with popular mass media. From the point of view of hybrid research, as in the case of ideology-producing bureaucracies (below), this coalition is both desirable and rational since, during the last quarter of a century, the media have evolved into an autonomous sphere of power, quite comparable to politics and definitely superior to traditional science. Furthermore, the media tends to perceive and make claims for itself as representing the (nonspecified and hence never institutionally regulated) "public interest" in a world in which, according to the media, everything and everybody else, including politics and science, represent "vested interests." The superior position of media is based on the premise that by incessantly producing a specific, although undefined, form of public good called "information," it must also have a special and autonomous position in society.

Behind the power expansion of the media, one can probably detect a reinterpretation of the very concept of democracy. This means, inter alia, that the institutionalized connection between power and responsibility – which must permeate politics, bureaucracy, and economy – or between autonomy and substantiated expertise, as in science and research, has in the case of media gradually disappeared as the basic legitimacy for the public exercise of power. This means, at least in my understanding, that media's claim, usually with references to "democracy" for an almost unlimited right to exercise public power, is, in the true sense of the word, irresponsible (Nybom 1990).

Thus, as of today, it would be both inaccurate and potentially dangerous to consider media and science as "soldiers in the same liberal-democratic enlightenment army." In the last quarter century, media has emancipated itself from its traditional allies – science and politics – and ceased to be the intermediary between the general public and these two institutionalized forms of collective action and systematic knowledge production. Instead, it has developed into an autonomous and unaccountable center of power in Western society.

Therefore, when a lot of people, as so often happens today, in a routine fashion uses "information" and "knowledge society" as synonymous and interchangeable concepts, it does not only show a lack of insight but it is more or less fatal mistake. The information society is and remains the opposite of the knowledge society and journalism can, in the very near future, become the deadliest enemy of institutionalized science and knowledge production (McLeod 1994; Rothman 1990). The shift is also reflected by media's increasing tendency to define freedom of speech and information as synonymous with *unrestricted medial autonomy* rather than with the legitimate basic right for ordinary citizens to express their opinion freely and to receive accurate and comprehensive information (Nybom 1997b: 296–302).

Using a variation of Robert Merton's classic CUDOS norms (Merton 1942/1973; Nybom 1997a: 220–223), one can illustrate the fundamental conflict between the normative systems of science and research, on the one hand, and the media and hybrid research, on the other. By comparing a set of values: *Pluralism, Quality, Originality, International Integration*, which nominally and officially are celebrated in both science and in the media/hybrid research, one clearly detects that these values have distinctly different meanings and implications in the respective public sphere:

In science, *pluralism* means that one upholds and develops theoretical, methodological, and thematic diversity as an integrated part of a general desire to *maximize the empirical base and the number of possible explanatory theories*. Within the media and hybrid research, however, pluralism only seems to mean a *maximization of the number of participants and the number of produced artifacts*.

In science, *quantity can never change into – or be synonymous with – quality*. Within the media and hybrid research, on the other hand, the sheer amount of information – together with the immediate medial/political effects – appears to constitute a decisive quality criterion. *Quality* is presented as a function of *an optimal but unspecified "flow of information."* In media, this constant flow of more or less unqualified "information" is not only perceived as the most relevant benchmark for a nation's level of enlightenment, it is obviously also considered to be the prime indicator of a nation's democratic and cultural health.

*Originality in science can only involve theoretical or empirical innovation*, which either leads to a more certain level of knowledge or a genuine increase in the explanatory power. The media and hybrid research, on the other hand, neither *want* nor *can* produce new knowledge. At best, existing knowledge is replicated or referred to reasonably accurately. At worst, it is about more or less systematic distortion. Thus, *originality* in the media and hybrid research is only concerned with *formal design, intensity, and instrumental effect*.

Finally, *international integration*: assessments of scientific quality and relevance must always be *founded in a timeless, international standard to be seriously considered and accepted*. Media and hybrid research, to the contrary, seem to work exclusively with extremely local and time-bound hierarchies of value.

In conclusion, I repeat: it is not only erroneous to regard the terms "information society" and "knowledge society" as synonymous and interchangeable, it is also highly dangerous. The information society is, and remains, the opposite of the knowledge and learning society.

## Bureaucracy

As indicated above, there are well-founded reasons in this particular context to contemplate and discuss the changing relation between politics and science, on the one hand, and bureaucracy on the other, since the bureaucrat is set to operate between, and in interaction with, both these societal spheres of knowledge production and power broking. Even if my starting point is primarily the Swedish case, similar

trends are easily detectable in other comparable countries. In any case, present-day Sweden appears in this respect to be a particularly interesting example.

According to traditional, constitutional, and rationalist theory, the bureaucrat, in his relation to politics, is – or at least should be – equally devoid of value judgments as the researcher. The fundamental difference is, however, that while the bureaucrat's task is to ensure that lawful political decisions are implemented and that the officially declared political value hierarchies are realized as efficiently as possible, the researcher's main task is to analyze, criticize, and uncover the societal implications and consequences of political and administrative decisions, and identify and analyze the basic premises and implications of these collective processes. Hence, even if one can argue that the bureaucrat and the scientist should possess, at least to a certain degree, similar competences and use roughly the same methods and practices, when it comes to their *Wertbezogenheit* and professional duties, they are nonetheless fundamentally different, and sometimes even antagonistic.

## *Administrators, Entrepreneurs, and Hybrid Research*

The bureaucrat's first duty is loyalty, i.e., to effectuate and implement, to the best of his/her ability, lawful political decisions, while the researcher's first duty is not loyalty but integrity; not subordination, but distance and autonomy. Thus, for the bureaucracy to be optimally useful and able to fulfill its societal role, it must be professionally superior but at the same time subordinate to politics. Science and research, however, must remain independent – institutionally, professionally, and normatively – in order to serve politics optimally. In other words, while the bureaucrat and the politician have – and must have – the legitimate ambition to simplify the world, the researcher's first obligation is to complicate and problematize the world. Furthermore, while the bureaucrat is substantially applying existing knowledge in the service of politics, the researcher's overriding ambition must be to contribute to the qualitative expansion of knowledge – to produce new knowledge – and hence, more often than not, to increase the complexity and difficulty of the societal decision-making process.

The penetration of hybrid research into public and private bureaucracies as well as into politics during the 1970s may be perceived, at least initially, as a realization of the eternal daydream of the social engineers of a "scientific" form of policy making, where social change would be based on pure rationality and large-scale planning. But, in reality, the actual effects became almost the opposite: (a) an increasing opposition to and distrust of large-scale, rational planning and (b) a gradual loss in influence and even legitimacy in each one of these spheres of collective social action and knowledge production.

In the 1980s, this dissolution process and blurring of the borders between these three key social spheres were further reinforced by the sweeping criticism (in both its neoliberal and its "Third Way"/Giddens' version) of the entire rationalist or modernist model of a continuous and planned social transformation in which science

and qualified research produced new basic knowledge and an efficient professional and "impartial" bureaucracy carried out well-founded and enlightened political decisions. This growing general distrust, which paradoxically and curiously enough was described as a consequence of the emerging "knowledge society,", was directed primarily toward long-term, evidence-based decision-making and rule-based implementation, the effects of which eventually became evident and significant in regard to the changes in position, competence profile, and actual tasks of the public bureaucracies during the past 30 years but also in regard to the standings of science and research.

In addition, the natural law-inspired neoliberal attacks on the supposedly "legal positivism" of rule-based administration gradually also included the introduction of a new type of legal culture, where legal provisions began to be considered as directional or even "optional," rather than binding. A more or less logical consequence (unspoken purpose?) of this process has been a decreasing respect for the supremacy of law and an undermining of the law's position as a source of justice of the "last resort." Open-ended rules and regulations that are continuously in flux gradually lose their legitimacy as an operative system. Legislation is not perceived as a guiding rule, but more often as "recommendations" and, not infrequently, even as an obstacle to be bypassed.

In this period, so-called framework legislation was elevated to "standard operating procedure" as the standard form of rule-setting and lawmaking in most areas of public administration. This also meant that legal texts were made deliberately vague and open-ended and became the object for "negotiation" between legislators and administrators, and the object of lawmaking – i.e., the private citizen. The subsequent rise in contested cases necessitated the delegation of formal decisions to officials in the "lowest" administrative bodies in charge, i.e., to people who often lacked the legal expertise. In this way, more and more of the responsibility for political decisions passed by parliament or decided by the government was removed from the actual legislator and put on the shoulders of the implementing "street-level" bureaucrat.

In many cases, legal regulations became almost irrelevant. In the national education system, for example, not only administrative practices, but even decisions concerning the curriculum became less binding and less detailed, and adherence to a common and national quality standard was in practice abolished. This initiated a process of gradual and deliberate de-professionalization in the entire education sector. Decisions concerning the content and focus of learning and teaching were transferred from the teachers into the hands of lay persons, usually business-trained "entrepreneurs," whose overriding aim was to create an administrative system with as few binding rules and regulations as possible in order to maximize their freedom of action *and* their profit. It is fair to say that not least these so-called freedom reforms have led to rapid decline in quality in the Swedish primary and secondary school system (Ringarp 2011).

The dissolution process was by no means limited to the education sector. Gradually, a number of publicly funded activities and responsibilities that had hitherto been generally considered as *basic* public services and obligations (health care,

care of the elderly, etc.) were either outsourced to private enterprises or transferred into different kinds of public "quasi-companies" with managerial modes of operation and aims – profit rather than legality and transparency – that were fundamentally at odds with a traditional rule-governed public administration.

## *From Rules to Targets, From Government to Governance*

The transition from rule governance to various types of so-called "result, target, and performance-oriented" administration proposed by the advocates of New Public Management eventually led to the massive introduction of models, practices, and *normative systems* in the public sector, which almost automatically led to forms of control and performance indicators above and beyond traditional democratic and legal forms of control. Subsequently, during the last three decades, we have seen an almost uncontrollable flood of evaluation, follow-up, and accountability schemes (Lindgren 2006), usually performed by the same external consultant firms or *quangos* that initially instigated these reforms.

The expansion of evaluations and follow-up schemes can also be taken as an expression of an institutionalized form of "collegial" mistrust, where superior levels no longer feel that they can trust the subordinate levels to perform their duties. This in turn has led to administrative systems characterized by a growing sense of irregularity, uncertainty, and therefore, presumably, also of increased inefficiency – and even of the introduction of an almost criminal type of "efficiently driven" mismanagement in *still publicly funded* but now commercially run and privately owned companies.[4]

Interestingly and certainly not surprising, the process of "deregulation" or commercialization in different areas of public service has generally also introduced a particular form of Swedish "Newspeak," which has also led to a fundamental redefinition of such basic concepts as "innovation" and "entrepreneur," As of today, these concepts have *nothing* to do with the renewal or improvement of products and processes – i.e., to added public value. Instead, it is basically about nothing more than how can one (risk capitalist) possibly turn public revenues/taxpayers' money into private profit as quickly and as inconspicuously as possible and send it to the Cayman Islands.[5]

Another dimension in this process is the almost geometrical growth of lobbying firms, consultant agencies, and different types of "coaches," both at the supranational and national level. This means that in public decision-making, the adjustment

[4] The "Carema scandal" in Sweden (geriatric care), disclosed in November 2011, is a particularly instructive case.

[5] To better understand what this is all about, I recommended the passionate ideological defense of these "new entrepreneurial measures," by one of its chief instigators (and incidentally also big profiteers) (Bergström 2011), when the total lack of substance and efficiency of these measures were exposed by one of "their own" (Hartman et al. 2011).

between different types of vested commercial/political interests has in many respects superseded the concern for the common good as an overriding public responsibility. In the UK and elsewhere, this has also been manifested by an almost epidemic spread of so-called semiofficial *quangos* (quasi-autonomous nongovernmental organization). These agencies/companies are more or less informally associated with the government, but at the same time combine their semiofficial status of "public agency" with the characteristics of private lobbing agencies, ideology-producing "think tanks," etc.

These semiofficial "networks," etc. are quite often utilized by government to suggest and implement unpopular and controversial political measures, which the formally accountable political and administrative branches do not dare to carry out or take the responsibility by themselves. It is also in this context that one should understand the recent predilection among "social analysts" – including academics – for the term "governance," a "Newspeak" for the exercise of power in constitutionally unregulated (sometimes even illegitimate or, at least, "leased out" forms), rather than "government," when analyzing social control functions, decision-making, and control systems.

In Sweden, which often used to be characterized as the home of large-scale social engineering, the dissolution process has, in particular, taken on two distinct and possibly fatal dimensions: (a) a marked decay of quality and capacity as regard the official white papers and commission reports presented to parliament and the government and (b) the transformation of the central administration regarding its role, duties, and practices. Until the late 1980s, it would be fair to say that the regularly commissioned official reports and investigations ("*offentliga utredningar*") constituted the most important producer of qualified knowledge of the Swedish society – both quantitatively and qualitatively. Over the past two decades, the basis for this systematic production of knowledge has been more or less deliberately eroded – primarily through direct political intervention but also through the expansion of hybrid research.

As of today, one can hardly claim that the official reports – with a few exceptions – constitute a robust basis for policy decisions. This is also no longer the intention. The official reports and white papers have instead turned into more or less qualified "ideological pamphlets" usually compiled by carefully selected individual "experts" under considerable time pressure and thorough political control. Thus, contrary to what is often maintained, the societal reform and planning has gradually become less and less "knowledge or evidence based" in recent decades.

During the same period, the bureaucratic ideal has become "ideological activity" rather than "administrative reactivity," where speed rather than reflexivity and prudence are asked for. In reality, a development was set in motion where central administrative agencies were encouraged and got incentives to *initiate* new legislation, usually in harmony with prevailing popular trends and opinions. Accordingly, when it comes to central administrative agencies established in Sweden in the last 20 years, one can note a clear shift in both role and core tasks. If an absolute majority of the authorities that were formed up to 1980 were clearly linked to a legislation that they, "in due form," were required to implement, only a few of the central agencies

established from the 1990s and onward have had this character. Instead, there have emerged a significant number of central agencies, whose main purpose seems to be grounded in ideology production and policy making, preferably through media campaigns or colorful pamphlets. One of the more blatant examples, *Forum för levande historia* alas, concerns directly my own discipline.[6]

The political scientist, Bo Rothstein has pointed out that this shift in roles and primary tasks actually means that the central state agencies have lost their original place in the democratic steering chain, i.e., they no longer primarily implement government decisions and laws passed by the *Riksdag*. Instead, policy steering tends to move in the opposite direction, i.e., we seem to have got some kind of autonomous *poly-cratically* driven form of policy making (Rothstein 2005). If this process continues, we run the risk of ending up not only in a situation of administrative inefficiency and insecurity regarding basic rights but also in a social order in which the ideological and value-oriented conflict of opinions is removed from the sphere where it actually belongs – in free and open public political debate. The manifest crisis of traditional political organizations is, in other words, hardly a mysterious historical coincidence.

## Conclusion

Between science, on the one hand, and the spheres of politics, bureaucracy, and for that matter economy, on the other, there are such essential differences in roles, norms, and obligations that an institutional, intellectual, and normative division appears to be indispensably necessary. If these lines of demarcation are erased, all parties will suffer irreparable harm:

*Politics* will eventually turn into spin-doctored and medialized opportunistic "quarterly politics," executed behind a thin veil of essentially irresponsible and deceptive hybrid research, with a gradually increasing undermined legitimacy as an ultimate consequence.

*Bureaucracy* is demoralized and made inefficient by a corrupting and illegitimate politicization, as well as by quasi-political ideology production authorized by "hybrid research."

The third sphere of influence – *the economy* – which is not discussed in detail here, ceases to be subordinate to politics and morals and, supported by politicized and academically hallmarked hybrid research, develops into an autonomous sphere, where the discrepancy between power and responsibility and between self-interest and public interest becomes so wide that it in reality becomes a threat not only to social harmony but also to the entire democratic social order.

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[6] *Forum för levande historia* (Forum for living history) was established in 2003 as *a formal and normal central state agency*, which "on behalf of the government" has the explicit and official task of "informing" the Swedish population of the history of genocide, discrimination, etc. in general, and of the Holocaust in particular.

*Research and scholarship* degenerate into ideology production and, in submitting to the instrumentalization of science, risk losing substantive value. Moreover, the traditional academic claim to relative autonomy will have to be abandoned, as it will come to be seen, and not without reason, as illegitimate and absurd. At that point, science will have betrayed its basic historical *mission civilisatrice*.

Emphasizing the differences in regard to basic legitimacy, fields of competence, normative systems, and value hierarchies would thus seem to be as least as important for us today as it was for Max Weber more 90 years ago, when he gave his classic lectures *Wissenschaft als Beruf* and *Politik als Beruf*. The blurring of roles that we have seen is a consequence of the almost epidemic growth, since the 1970s, of the *poly-cratical*, intellectual hybrid sphere, which, especially in the medial arena, operates in the twilight zone between science, bureaucracy, and politics under a plethora of different labels ("analysts," "think tanks," "consultants," "researchers," "informants," "coaches," "independent experts," etc.). I maintain that if we do not contest and actively combat this development, the existing institutional arrangements for rational and communicative social action, science, politics, bureaucracy, and economy will become corrupted, a development which threatens to break down the very fabric of modern democratic society.

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# Chapter 3
# Innovation and Control: Performative Research Policy in Sweden

**Sven Widmalm**

## Introduction

> All speak in favor of honest, independent science, even those who seek to subvert it. (Greenberg 2007, p. 4)

It is a truth universally acknowledged that the market economy has been successful in producing growth. A steady increase in production and consumption since around 1800 is the visible proof of this, as are many of the gravest problems facing society and nature today. This system has been "efficient" in the sense that it has encouraged inventiveness – new ways of using technology, organisation and not least financial instruments. In current economic thinking, "invention" is often seen as the Philosopher's Stone of growth, a driving force (rather than a result) of progress and competitiveness. On the other hand, innovation thinking is marred by circularity. If innovations are novelties that help increase efficiency and produce growth, they are simply *defined* by growth (rather than explain it). From an analytical perspective, the idea of innovation is therefore rather problematic.

But innovation talk does flourish and has become a central concern of late modern economic and research policies in Europe. One point of departure in this chapter is that innovation talk is ideological rather than analytical. The deepest message of innovation thinking is not some insight about how innovative ideas drive the economy, as innovative ideas are simply defined as those ideas that drive the economy. It is rather that the production and dissemination of such ideas *must be managed*. According to innovation thinking, as it is presented in policy, the system is not efficient enough; the markets that should boost innovation have failed; bureaucrats

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must therefore intervene. For this reason, government is encouraged to provide more money and to implement better organisation through the creation of various incentives and control mechanisms. This way of thinking tends towards technocracy and planned economy; it is an expression of the interests of administrators and peddlers of management and innovation models. In Europe, the university system has been a favourite goal of technocratic innovation thinking, possibly because it is *there*: being a public institution, it is fair game for public intervention. This chapter will comment on how technocratic innovation thinking is developing in Sweden, but similar trends affect developments in the EU as a whole.

A second point of departure in this chapter is that innovation thinking in policy is closely connected with new public management (NPM) and other tendencies in late modernity covered by Michael Power's term "audit society" (Power 1997). Since the 1980s, an assembly of political technologies for implementing artificial markets and standards of quality in public organisations have emerged. This development came later in research and higher education than in some other areas, with the British Research Assessment Exercises being an early example that according to critics helped establish a "punitive and divisive system" that put British academics in "a policing role" with respect to their peers (Shore and Wright 2000, p. 70). In England, as in other parts of northern Europe – Norway, Sweden and the Netherlands, for example – there is now an increased emphasis on "metrics" such as bibliometric indicators. The new British Research Excellence Framework will also attempt to evaluate "impact", seen in terms of social utility (not only for the economy), and similar measures are now being suggested in Sweden (Smith et al. 2011; Flodström 2012). In Sweden, this is nothing new in principle: since the 1990s, official policy has defined the university as having three "tasks": research, education and "cooperation" (*samverkan*) with the "surrounding society". Since around 2000, such cooperation has been interpreted mostly in economic terms and has often been presented in the cloak of so-called "innovation system" theory, a model that was promoted by the OECD in the 1990s (Eklund 2007). Since then, the intertwined ambitions to apply NPM-like measures of governance on various levels within the university and of promoting a more innovation-oriented research system have intensified. Mainstream political parties do not seem to differ concerning the desirability of these methods and goals; they have been promoted by right-wing and Social Democratic governments alike.

To my knowledge, there is no convenient shorthand expression to capture these changes where demands for economic utility and an apparatus for control and assessment are being launched together in the name of efficiency. "Audit society" only captures some aspects of this development. I myself have used the term "innovation society" in order to describe an ideology where every aspect of late modern society is reduced to a component part of a system of innovation (Widmalm 2008). That label does however not capture the audit aspects of ongoing changes. For the purposes of this chapter, I will fall back on Thomas Kuhn (1996) and use the term *innovation paradigm* in order to capture the mental straightjacket character of innovation thinking that we currently see all around us (if we are academics in any case). The technocratic aspects of the innovation paradigm – the idea that a market failure in the innovation system can be mended through NPM measures – connects it with Power's audit society.

In the following, I will first discuss the innovation paradigm, using the funding agency Vinnova as a prime example. I will then comment on how it is currently being implemented through "performative research policy". The *corpus delicti* that I focus on is the latest research bill, produced by the current right-wing government in 2008, that has now been implemented. The evidence supplied by this particular example is not only factual, showing how the government tries to steer research in the direction of innovation. It is also ideological in the sense that language and rhetoric used by the authors of the bill show how a new way of speaking about research is being devised. The rhetoric of the bill does not *confront* ingrained academic norms. It rather changes the rules of the language game so that old concepts can fit within the innovation paradigm.

## The Innovation Paradigm

Vinnova is a government agency (*myndighet*) with the mission to support knowledge transfer from academic research to private enterprise and to help Sweden become (or remain) an internationally leading research nation.[1] It is difficult to gauge exactly how effective Vinnova has been, since its inception in 2000, in changing the policy landscape. But as a persistent producer of policy ideology in tune with the innovation paradigm, it provides useful illustrations of how this way of thinking has developed.[2] In some respects, the agency's influence has been obvious. Two former Vinnova leaders have lately become rectors of major Swedish universities – Lund, where Vinnova's former director general Per Eriksson became rector in 2009, and Umeå, where Eriksson's deputy Lena Gustafsson got the same position in 2010.

Of course, the Swedish government has supported practically oriented research before the latest surge in innovation thinking, mostly by financing university research through grants from technology-oriented government bodies (unlike in many other countries independent research institutes have been uncommon in Sweden). From the 1990s, there has been a growing tendency to steer also fundamental research at universities in the direction of innovation. Then a number of foundations were created with the task to support collaboration between universities and private enterprise. One such foundation called this "co-production", hijacking jargon from science studies – a typical example of how these kinds of organisations

[1] On Vinnova's homepage, it is said that the government has, in its instructions from 2009, "given Vinnova the task to make Sweden a leading research nation where research of high scientific quality is conducted". http://www.vinnova.se/sv/Om-VINNOVA/VINNOVAs-roll-och-uppgift/. According to the agency's "vision and goals", however, focus is strictly on economic issues, in particular economic growth. http://www.vinnova.se/sv/Om-VINNOVA/Vision-och-mal/. Both accessed 12 April 2010.

[2] Vinnova's publications are readily available at http://www.vinnova.se/.

invent or appropriate catchphrases and absorb them into a policy discourse.[3] The creative use of models from the social sciences is a hallmark also of Vinnova, itself christened after such a model, namely, innovation systems.[4]

Vinnova has promoted the innovation paradigm using a number of popular models or catch phrases. The Innovations systems model defines the broad outlook of Vinnova in that it paints a picture of innovation as the product of a comprehensive regional or national system that includes an untold number of societal functions. Innovation systems is a complete vision of society seen from the perspective of innovation (e.g. Edquist and MacKelvey 2000). This vision was ardently promoted in the first decade of this century by an "innovation movement" consisting of representatives of various political parties, industrial leaders, the Swedish engineering academy, unions and so on – rather like how NPM was promoted in European countries somewhat earlier (e.g. Bonnier and Berg 2004). This movement identified one particular part of the system as especially troublesome, namely, the university. Swedish researchers, it was said, were very good at producing papers but not at producing commercial value. This was called the "Swedish paradox"; a sibling to the European and British paradoxes appearing at about the same time and indicative of the mentality that lay behind the Lisbon Strategy in 2000, identifying European inferiority vis-à-vis the US in high-tech areas as a major problem.

A fascinating aspect of the policy rhetoric of recent times is the abundance of spatial metaphors, indicative of the influence of economic geography and doubtlessly of a general tendency to think in terms of transferring successful and easily conceptualised models (Sahlin-Andersson 1996). In the early 2000s, *valleys* seemed to sprout all over Sweden – often fertilised by Vinnova money: a biotech valley in the Stockholm-Uppsala region, a robotics valley around Västerås and so on. These and similar regional initiatives were thought of as "clusters", another model popular with Vinnova.

The most ubiquitous among these models in the early 2000s was probably the Triple Helix that suggests that innovation is the product of intimate interaction between state, academia and businesses. The inventors of the model, Henry Etzkovitz and Loet Leydesdorff, wisely emphasised its complexities (Etzkovitz and Leydesdorff 2000). In Sweden, however the model was used to legitimise a transformation of research policy into industrial policy circumventing rules and regulations that prevent governments from engaging in more direct economic support of private enterprise. For a while Triple Helices appeared, like the above-mentioned valleys, all over the map: there were Triple Helix organisations, conferences and buildings from Umeå in the north to Lund in the south. At the

[3] This was the KK foundation whose task it is to support growth-inducing collaboration between universities and private business in the service sector (the acronym refers to the Swedish words for knowledge and competence) (http://www.kks.se/medel/SitePages/Samproduktion.aspx) Accessed 13 February 2012.

[4] Vinnova is an abbreviation for the "innovation systems agency" (Verket för innovations system).

annual international Triple Helix Conference at Lund in 2002, with the theme *Breaking Boundaries – Building Bridges*, the keynote speech was given by the director general of Vinnova, the university's future rector, Per Eriksson. He spoke about "Triple Helix Implementation in the Swedish innovation system", thus amalgamating two popular innovation models.[5] This does however not imply a real ambition to fuse two models that each has some theoretical substance, but rather the opposite. Models such as these are fodder for a policy rhetoric the message of which is that valleys, helices, systems or clusters cannot develop organically. They must be constructed, by Vinnova or other policy actors. Models attempting to explain how innovation grows are hence used in order to justify that they must be constructed and controlled by a state bureaucracy.

This is still true. Today, Vinnova immerses its rhetoric in EU policy speak such as "knowledge triangle" and "challenges", terms that flood reports, vision statements and white papers. In a white paper produced for the government in preparation for the next research and innovation bill (expected in October 2012), these concepts are central (Vinnova 2011a). The knowledge triangle has no meaning except as yet another call for bureaucracies and governments to try and steer research, education and innovation towards common goals. The idea of challenges is somewhat interesting in that it strikes an alarmist chord. According to this rhetoric innovations should be promoted by state initiatives not only in order to foster growth but to help save us from grave danger. Challenges are even more problematic than market failures, the traditional *raison d'être* behind government intervention in the innovation system, as they concern serious stuff like climate deterioration and pandemics. They therefore call *urgently* for collaboration between public, private and academic actors orchestrated by bureaucratic redeemers like Vinnova. This does not mean that the profit motif is no longer relevant. On the contrary, "[Vinnova's] challenge-driven strategy derives from the important social and societal challenges driving the development of innovations and bringing global market opportunities" (Vinnova 2011b, p. 1).

Today, Vinnova thinks that the university's role in the innovation system would be much improved by the implementation of a new bureaucratic infrastructure (innovation offices), a distribution of funding according to measures of excellence and "impact", specialisation so that universities reach a level of excellence in at least some area, and "autonomy" that would make universities function more like actors on a (regulated) market (this is being implemented in Sweden right now) (Vinnova 2011a, pp. 38–40). To paraphrase the terminology of the innovation paradigm, such changes might result in a more efficient Triple Helix that would help overcome market and system failures and make possible the development of regional systems of innovation and a fully realised knowledge triangle that will lead to the establishment of clusters that will produce innovations to meet challenges and promote sustainable growth and competitiveness on the global market. In short, univer-

[5] http://www.triplehelix.dk/programmeframe.htm. Accessed 29 March 2010.

sities would be replaced with something like a system of technological institutes embedded in science parks. Vinnova thinks this would encourage "green growth", a slogan the agency seems to have invented itself.[6]

## The Document in the Case: Government Bill 2008/09:50

The research and innovation bill "A boost for Swedish research and innovation" (*Regeringens proposition* 2008*/09:50, Ett lyft för forskning och innovation*) is not burdened down by such excesses of jargon as Vinnova's publications but its content is in line with Vinnova's policy visions. An important ambition is that government funding for research should promote regional or national economic interests, especially in high-tech areas. The climate is also used as a prop to justify research as innovation. The designation of "climate" as one of three strategic areas, where research funding is to increase, is typical of the use of political spin throughout the bill. In reality, "climate" mostly concerns areas of general interest for the Swedish economy such as energy and natural resources: "A common theme is to strengthen the competitiveness of private enterprise" (pp. 73, 98–109). In general, this bill cannot be interpreted literally but has to be analysed as a piece of performative rhetoric founded on an instrumentalist and economistic view of research. I will give some examples and then finish with a brief analysis from the point of view of performativity.

### *Change!*

The bill is radical in that it proposes fundamental policy changes – detailed political steering mechanisms for research and severe evaluation mechanisms are two important examples. According to the bill, competition on the global level makes such changes unavoidable; change is hence justified by historical necessity. Talk about the past, in a context of historical necessity, positions the present and indicates a direction for future developments. We might therefore expect, in a political document like this, the image of the past to be coloured by current political concerns, which is indeed the case.

The bill contains a brief historical account where Sweden's past achievements in research and innovation are discussed. The impression given is that success in these areas is something of a Swedish manifest destiny – the title of the section being

[6] This is from a call for applications concerning "challenges" issued by Vinnova in April 2011: http://www.vinnova.se/sv/Utlysningar/Effekta/Utmaningsdriven-innovation/. Accessed 12 January 2012. Vinnova devotes one section of the call to defining "green growth". It is used in order to emphasise the importance of environmental issues, like sustainable growth but without the social ambitions inherent in that concept. Thanks to Anders Ekström for directing my attention to this document.

"A science history that obliges" (p. 16). First, Carl Linnaeus is mentioned, appropriately as the 3rd centenary of his birth was celebrated in 2007. This event reminds us, says the bill, of our "proud and long history" in the sciences (p. 16). We are also reminded of another great Swedish scientist, namely, Svante Arrhenius. Not because of his Nobel award-winning work in physical chemistry, but because of his speculative work on climate theory. This kind of invention of national scientific tradition (Hobsbawm and Ranger 1992) goes on for a while, and includes stories about successful technical innovation, like security matches and fridges. The apex of the historical narrative is reached with Alfred Nobel to whom we (the Swedes) are said to be indebted because he saw to it that the world's most prestigious science prizes are awarded in "our country". He could do this, say the bill's authors, because he "managed to commercialise his technological breakthroughs". The lesson is the following: "Swedish history of science is also, at least in more fortunate cases, a history about successful application" (p. 17).

A lot could be said about this historical sketch. The fact that Arrhenius' climate theory was founded on no solid evidence (Crawford 1996, ch. 10) is unimportant as is the fact that Nobel's economic success to a large extent was founded on weapons manufacture. A more insidious aspect of the government's historiography is that it equates research and innovation. When science works as it should, it is said, it rapidly leads to innovation – an interpretation that detracts from the technological genius of Nobel and others as much as it renders meaningless most science done over the years in Sweden and elsewhere. Finally we might also note that the bill's authors violate historiography of science by making what is essentially an international enterprise into a national tradition. This is exactly what people did during Nobel's time, and what Nobel's international prizes aimed to counteract. Believing, however, as policy makers must, that national investment in research will have national or regional effects, it no doubt seems important to revive century-old ideas about the inherent inventiveness of the Swedish nation. The most well-known expression of this idea is a book by the statistician Gustav Sundbärg, published in 1912, where the particular Swedish inclination for science and technology was discussed. Like today's policy makers, Sundbärg interpreted this "fact" in a context of national competition: "in the new world order those peoples will battle themselves to the best position that are of highest standing when it comes to spiritual and material power" (Sundbärg 1912, p. 139). This was an expression of mainline *fin-de-siècle* nationalistic sentiment, informed by social Darwinism or *Lebensphilosophie*. As we shall see the emphasis on competition as a driving force behind progress is a recurring theme also in the bill, where it colours the understanding of research.

So this is what the bill's historical sketch accomplishes: it applies an outdated national(ist) model of understanding scientific progress on contemporary science, while at the same time applying a contemporary innovation-policy understanding on scientific and technological development a 100 years ago. The disregard for accuracy in the bill's historiography is symptomatic for an overall lack of concern with the humanities from a policy perspective. History is not presented as an area of research but is used as a rhetorical device in order to drive home the idea that policy changes are motivated by necessity (rather than by ideology

or interest). A once proud scientific heritage is in danger of being embezzled; global competition and national pride demands that measures be taken to prevent this. That is the message.

## *Innovation!*

The bill was produced by a ministry headed by the leader of the liberal "People's Party" (*Folkpartiet*) that traditionally has put a fair amount of emphasis on "academic freedom". The minister himself, Lars Leijonborg, repeated on numerous occasions that there was no contradiction between fundamental research and academic freedom on the one hand and research directed to achieve practical or commercial goals on the other. It is possible to do both at the same time according to the then minister.[7] (A Social Democratic government wrote exactly the same thing in their research bill a few years earlier.) (Regeringens proposition 2004/05:80, pp. 10, 140, 151.)

This kind of doublethink permeates the research bill. On the one hand, it emphasises that research must be free and long term, and on the other hand, it regulates what research is to be supported in unprecedented detail with more than 20 areas earmarked as "strategic" and given extra funding. (Of these two belong to social science: "Research about the preconditions for [economic] growth" and "Politically important regions" – the latter being specified as Russia and the Middle East. The rest are in science, medicine and engineering.) (Regeringens proposition 2008/09:50, pp. 111–113.) When discussing the strategic initiatives, the bill claims that research should be free and applied at the same time:

> It is very important that those seats of learning that receive funding for strategic purposes allow for free curiosity-driven research within the framework of the strategic area. It is also important that representatives for society and private enterprise in relevant areas can participate in the formulation of research problems and that companies can join in the projects and participate in carrying them out. This contributes to the production of solid research results as well as to the utilization of results and competencies. (pp. 68–69)

Similarly, the bill's claim that the Research Council would become better endowed to fulfil its mission to support fundamental work seems contradictory. According to the bill's logic, the Council would benefit from the large investment of new resources for strategic purposes as this would decrease pressure on the Council, making more money (relatively speaking, as fewer scientists would apply there) available for fundamental work (p. 26). To make the interpretation of this reasoning even more complicated, the bill also prescribed that the Council should support research of strategic importance for Sweden's high-tech industry (p. 29). The bill exhibits a number of such seemingly contradictory statements and I will return to their interpretation in the final section of this chapter.

Within the innovation paradigm concepts like "science", "research" and "knowledge" are disassociated from an academic norm system that emphasise openness,

[7] He has since been replaced by another liberal who was then replaced by yet another liberal.

originality and an intellectual commons and are put to use in a discourse that stubbornly focus on economic issues (Ziman 2000). It is true that research has never been "free" in an ideal sense; there is a massive amount of documentation and theorising to the effect that science is embedded in various cultural, political and economic frameworks (Hackett et al. 2008). The point of having a norm system that includes things like academic freedom should, however, not be underestimated (anymore than having legal system that includes the idea of justice). It guides behaviour to some extent and makes it possible to define and act upon transgressions. In discussions about patenting, it has been pointed out that the academic norms that we associate with Robert Merton's codification may be more "productive" than those entrepreneurial and innovation-oriented ideals that have been emerging for some time, and that the drive towards innovation might result in "rapid norm breakdown" (Rai 1999, p. 109; Eisenberg 1987). This is problematic for many reasons, not least because research as innovation is bounded by narrow economic and political rationales that exclude vast areas of knowledge production. Critical theory, climatology or astrophysics could hardly have evolved within a research environment defined by the innovation paradigm. This is a democratic problem. A narrowing of university research would leave many "stakeholders" without an officially sanctioned knowledge-producing system to turn to for reliable information and intellectual sustenance.

Hence, the change of direction in recent policy could have important consequences. Concepts and terminology that used to have a life outside of innovation thinking are being co-opted in order to do ideological work within the new paradigm. Academic freedom is not attacked, it is redefined. Similarly intellectual pluralism is not criticised as such, but large areas of university research are simply made invisible within the innovation paradigm as they have no meaning in that framework. Furthermore, the performative act of describing research as innovation, which is what the bill does from its title onwards, in effect makes dialogue impossible. You cannot speak back to something that does not recognise your vocabulary or your system of values. That logic of course works both ways which is probably an important reason behind the feeble public response from the academic community to current policies despite widespread unease and unofficial criticism.

## *Competition!*

A parallel performative phenomenon to the merging of research and innovation is the equating of scientific and economic competition, in line with the very strong emphasis on competition that has permeated NPM (Rolland 2005). The notion of global economic competition is used in order to justify the innovation paradigm and also when describing the dynamics of research, especially with respect to scientific quality. A few quotations from a host of similar ones give us a flavour of the bill's competitive spirit:

> Globalization is not a zero-sum game but a process where everyone can become a winner. Competition often leads to better and cheaper products and services. Sweden has historically become a winner at times when world trade has expanded. (p. 15)

> The government's goal is to strengthen Sweden's position as a research nation and thus strengthen the competitive power in a globalised world in order to contribute to increased sustainable growth and welfare in Sweden. (p. 20)
>
> The utility of research for economic growth and competitiveness is an overarching orientation that has been formulated by the government. (p. 21)
>
> By introducing a quality-based system where some of the government research appropriations to universities and other establishments for higher education are connected to quality indicators the incentives for the universities to prioritize and focus strength will increase. In the longer run this will lead to an increase in quality and international competitiveness for Swedish research. (p. 51)
>
> Global competition is an important background to the government's proposal to use more resources than ever on research so that Swedish researchers and companies shall continue to develop successfully and be able to compete on the international arena. (p. 205)

The bill consists of 292 pages and the word competition is used 215 times – on many pages it is used four or five times.[8] An effect on the level of discourse is that competition on markets appears to be *the same thing* as competition in science. In both cases, progress – defined as growth and increased quality respectively – is seen as the outcome of successful competitive strategies. In the background hovers, a distorted interpretation of Darwinism according to which evolution produces perfection rather than just survival.

The market notion of competition is the model for portraying scientific competition rather than the other way around (which would be funny indeed). This is made clear by the fact that the ability to amass capital (funding) and successful branding (citations) are used as indicators in a new system for distributing funding for research to universities. In this way, it is said in the bill, quality can be measured by quantitatively – a paradoxical idea that nevertheless is in line with broad trends towards the use of cost-benefit analysis (CBA) as a tool for (post) political decision-making also in other areas (Thoresson 2011). Intellectual CBA not only defines quality quantitatively but shapes a new environment for scientific survival constituted by ecologies of research funding and transnational publishing. The former is still largely determined by national policy, and here the aim is to rig the environment so that it favours the new definition of research as innovation. (To take the Darwinian analogy a step further, it could be said that the construction of an artificial market for research should really be seen as an attempt to breed a new science and new scientists by manipulating their environment. The breeders in this case being a consortium of politicians, policy wonks and management types.)

[8] The word "collaboration" is used almost as frequently but in different contexts, namely, in discussions concerning international collaboration, collaboration between university and industry, and collaboration between disciplines – in the latter case because interdisciplinarity is strongly promoted within the innovation paradigm. Collaboration is not described as a broad characteristic of successful research in the same way as competition is.

As the ideals of research as innovation and quality as market success are combined in various ways, the desired result seems to be that already strong research environments are given even more resources and weaker ones are bled white – with "strength" and "weakness" being defined in relation to the new system of indicators. Furthermore, the use of these resources is guided towards areas where they will combine with commercial interests in order to produce innovation. Areas that are strong neither on the publishing market (as defined by Thomson Reuters), or in terms of innovation and the ability to attract external (more and more innovation oriented) funding end up in policy shadow. This is true for all of the humanities as well as much social and natural science. At present, the consequences for academic fields that escape the spotlight of innovation policy are by no means clear. Interesting things can doubtlessly grow in the dark.

## Performative Research Policy

Michel Callon and others analyse the relationship between economic science and its object, the economy as such, in terms of performativity, arguing that economic theory in some ways shape economic realities by imposing its logic on the object of study. I claim that something similar is going on in research policy. Admittedly a policy bill like the one discussed here is not theoretical, but an expression of political-administrative will. Two reasons nevertheless give grounds for seeing it as an example of performativity in Callon's sense.

First, it is an example of J. L. Austin's notion of performative utterance. The bill is not only a text; it is a political act, establishing a number of facts about reality through *fiat*. Hence, if the bill claims, for example, that there is no contradiction or really not much difference at all, between innovation and research, this may be seen as a speech act, establishing that there shall be no such difference. This decision is implemented through the various reforms put forth in the bill where innovation and research are given equal status or merge. One example of this is the decision that innovation work in industry shall become recognised as a qualification when applying for academic positions; another is the proposed *duty* to register research results with commercial potential (Regeringens proposition 2008/09:50, p. 27). A third example is the transformation of scientific competition from what has basically been a moral economy (involving things like status and trust) to a market economy (competition for economic and bibliometric advantages) (Larsson 2009). As citations are becoming a prime indicator of success, from the individual to the national level, university leaders all over Sweden are (with the help of, e.g. library staff) devising strategies to increase profits in this new currency, thus participating in the reconstruction of meaning that research policy aims to perform.

Second, the bill is in fact closely associated with social theory – the innovation models discussed above – which makes it an agent for modifying reality through theory in the sense that Callon put forth. It is not as if innovation scholars necessarily see themselves as policy makers (though some do), nor that the bill gives a good

representation of underlying theories. The bill may nevertheless be seen as a medium through which economic theory works on its object of study, reshaping it so that it can be said to fit more closely with theoretical presumptions. One straightforward example is the claim by Etzkovitz and Leydesdorff that the university is becoming more entrepreneurial. The Swedish research bill helps, together with a myriad of other policy acts, to improve the fit between theory and reality. To say that innovation and research are the same is not enough. As Callon points out, performative statements "determine the environment required for their survival" – i.e. they contain a kind of prescription for how the world must change in order for them to become true (Callon 2007, p. 332). Performative success would simultaneously create a new language and a new reality. In order for a document like the Swedish research bill to achieve such success, it would need help from many actors in academe as well as elsewhere. Success is therefore not guaranteed.

Callon's version of performance theory highlights how theory helps model reality in a constructivist sense. Donald MacKenzie distinguishes between this "Austinian" use of the theory and a broader "generic" use that includes performance in a wider sense, for example, the enactment of social "roles" (MacKenzie 2004, pp. 305–306; Kjellberg and Helgesson 2006). This sort of performance is also important for understanding the effects of research policy as new forms of evaluation and control encourage new behavioural patterns and new ways of playing the academic language game (along the lines suggested above) (Strathern 2000). This process has, in an educational context, been described as one where "value replaces values" – i.e. market economy replacing moral economy – and as an example of "the terrors of performativity" (Ball 2003, p. 217).

Perhaps this boils down to nothing more than the implementation of a modified norm system where academic researchers are more and more expected to behave as if their work aims to fulfil the expectations of auditors – a focus on innovation or "impact", the adoption of certain publication practices, and with greater efforts being put into the application for external funding. A serious problem is the obvious mismatch being developed between the purpose and the goal of knowledge production. If the purpose of research is to contribute to an evolving body of facts and interpretations, and the goal is to rank high on a scale defined by quantitative indicators, serious alienation is the probable consequence. It is not really possible to criticise policy of the kind that the Swedish research and innovation bill exemplifies as its language game undermines dialogue. The bill is an expression of political will that you can only accept, escape or resist.

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# Chapter 4
# The Scientific Mission and the Freedom of Research

**Arne Jarrick**

## The Quest for Knowledge and Its Motive: Mission or Spontaneity?

This is a chapter on the relation between the social mission to conduct scientific research and the profoundly legitimate demand that basic research should be a free activity with as little interference as possible from the society it must serve.

To begin with, the above title might make one wonder – wonder about the idea that the scientific activity would be the answer to a mission. Is such a mission needed, and who would it emanate from in that case?

Generally speaking, people do not have to be pressed to seek knowledge.[1] We do it spontaneously. Apart from the pleasure of increasing our knowledge, we would not survive otherwise. This means that the never so spontaneous quest for knowledge is largely imposed on us by circumstances. So, the answer to the question is no: we do not need a mission to seek knowledge in order to search for it.

However, as we all know, people do not always await each other's spontaneous quests for knowledge, but seek out answers about all sorts of things that require knowledge, whether it is already in the hands of the person who receives the question or requires some work for it to fall into place. That is the beginning of the mission. The implication of this is that the spontaneous quest for knowledge most often leads into an organized and, in course of time, increasingly institutionalized knowledge

For comments on an earlier version of the text, I thank Håkan Billig and Lucas Pettersson.

[1] The concept of knowledge used in this chapter is very broad, and I make no distinction between what some people call understanding and other kinds of knowledge.

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project. So, with all due deference to spontaneity, the kind of society where missions to seek knowledge are also not formulated, which over time becomes more and more ennobled to science, does not exist.

The scientific mission is ultimately rooted in a nonscientific motive for knowledge. The scientific curiosity is never its own source. No sort of curiosity is, but it can always, or could always in principle, be traceable back to a need or a desire beyond itself. Drastically speaking, this is connected to something that I have already stated: we would not survive without knowledge.

Less poetically one could say that there is no knowledge project that ultimately is based only on a lack of knowing. But it is often in precisely that way many researchers define the intra-scientific motive for knowledge: "the reason that we want to know something about this, is simply that we do not yet know." It is true that such a credo highlights relatively well (though not completely) the dynamics of the scientific work as such – while already being a part of it. One becomes easily obsessed with every clue that seems to promise new knowledge, obsessed by both the tracks that lead in the right direction and the tracks that lead astray – almost indifferent to what kind of knowledge one is searching for, or if it in the end can be of any use. But before we as researchers come this far, we have to choose what we want to know, among everything that we believe that one can know something about. And since the amount of attainable knowledge is in principle infinite (and humanity's knowledge project will therefore never come to an end), it cannot be the lack of knowledge itself that helps us make this decision. Other motives must be applied in order to discriminate between what we decide to find out about and what we leave open: to save the world, to pursue a career, to not hurt mom and dad, to get research grants, or something similar. And the obsession that captures us once we have made our choice and got started with our scientific detective work – how emotional is not that?

In the community where we live, the researchers still have a comparatively large area in which to make that choice with a relatively large amount of independence, without irrelevant pressure from political, commercial, or other actors in society, and despite the fact that politicians, on obscure grounds, have broadly determined how the proportions of the government funds to the various branches of science will be distributed – although they sometimes (and increasingly) allocate research concerning particularly urgent problems. Thanks to the right-of-access principle and a relatively free access to libraries, archives, and museums, ordinary people also have great freedom to seek knowledge at their own discretion. And as said before, common to us all is also the fact that the motives to seek knowledge ultimately derive from circumstances beyond science itself – as also is the case for those who engage in it on a daily basis.

Yet the everyday scientific work in the service of knowledge differs from other activities aimed at increasing knowledge. It is characterized by a greater degree of planning, accuracy, and conceptual precision and at best also with a higher degree of autonomy from short-term fluctuations in the public interest in knowledge (Fig. 4.1) (Myrdal 2008, p. 40).

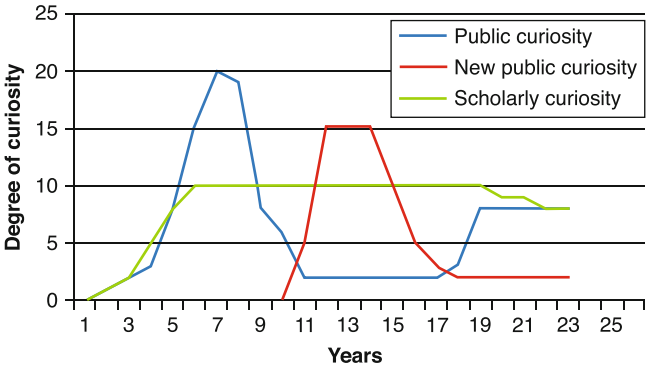


**Fig. 4.1** Scholarly and public trajectories of curiosity.

The latter is illustrated in the figure above. It shows an imagined course of events where something that happens in society creates an interest in knowledge among both the general public and the researchers – perhaps due to high medial attention. In the former group, the interest soon folds and is relieved by an increased curiosity in other events (here illustrated by the thick curve), while the researchers maintain their original interest until they have satisfied their curiosity through long-term research. Loyal to their scientific mission, they resist the impulse to abandon what they have started and do not relinquish what they have in hand just because something new captures the public's, and perhaps also their, interest. In a perfect world, the researchers encounter a renewed interest from this public the day that they have new knowledge to present about what initially attracted an interest from both the groups.

The following scene from family life in Sweden can serve as an illustration to the above line of argument:

> A group meets at a dinner party. The atmosphere is cheerful. The conversation moves along casually and associatively from one to the other, to occasionally pause before a question that no one can, but all want to, find an answer to. The questions could be everything under the sun and they can have been awakened by anything; something that was said on the radio or television, or something that one of the dinner guests has witnessed or that another worries about, and so on. Right now, one of the guests wonders what sickle cell anemia is, and if it is a dangerous and hereditary disease. By chance, she has namely heard something about it. "Let's look for it in the dictionary," the host suggests and reaches for the relevant volume of National Encyclopedia, which stands in a bookcase behind the dinner table. And sure enough: there is an article that answers the guest's questions.

That article would not have existed in the NE unless one or more scientists had taken an interest in the topic long before the dinner guests did. The answer to their question existed therefore long before they came to ask it and that because there once had been scientists who themselves wanted to know more about a health problem that might have caused concern among both scientists and the public at some point in the past. Through their scientific progress with the problem,

the scientists, in this case, came to be a step ahead of the public, who just had to pick the ripe fruit of knowledge at the same time as the desire to do so presented itself, and this whether or not the scientists had once had other motives than the guest of turning their interest into science. The fact is that the guest would not even have been able to formulate the question about the sickle cells if the scientists had not previously given the phenomenon its specific name and assigned it its particular characteristics. But it probably took some time for the scientists to reach the answers to their questions, so long that the public's early concern in the matter had time to be surpassed by concerns over a series of other things – while the scientists kept niggling with the sickle cells.

A further difference between scientific and other knowledge-producing activities is that the findings that emerge within the sciences are subjected to harder and more systematic tests than other things that we have got into our heads, or believe that we know. The sciences' constantly ongoing self-review of their own concepts, methods, and results is vital for their reliability, progress, and deepening and thus ultimately also for their usefulness.

## The Scientific Mission and the Free Inquiry

But I have now anticipated both the events and the story – still, however, without answering the question about the mission. Long before the sciences were distinguished from each other as separate disciplines, a process began in which the knowledge-producing activity as such slowly distinguished itself from other sectors of society, which in modern times acquired an autonomy which yet again is under threat, despite a political rhetoric that claims the opposite.

One could say that all producers of knowledge from time immemorial have worked with a mission to solve the material or ideological problems of society and that they have done so in collaboration with their commissioners. So too did many of the knowledge producers operating in the golden age of the scientific revolution in the 1500s and 1600s – and many more long thereafter. In the same way as, for example, mathematics in the 1500s was oriented to a high degree toward solving practical problems in navigation, cartography, or artillery, and the agronomy of the 1700s could be said to be about the attempted acclimatization of exotic organisms of great potential economic benefit for states, entrepreneurs, and farmers, all of the 1800s and at least half of the 1900s were about the emergence of industrial testing laboratories of various kinds (Pestre 2003, pp. 248–249). One can also see the professionalization phase of historical research in the 1800s as the answer to a political-strategic mission: to provide the increasingly powerful nation states with a glorious past. It was precisely this element in the process that the Swedish historian brothers Weibull, among others, reacted against in the early 1900s. They wanted to transform politics into science.

Even though there has been an undercurrent of science-oriented researchers who have sought knowledge for thousands of years mostly on their own accord, driven

by some personal motive to know, the sciences did nonetheless operate in close proximity to the financially or politically powerful for quite some time. And so, it still is to a large extent. One can summarize this relation with the words of Dominick Pestre. In an article on research policy, he says that

> knowledge has always mattered tremendously to states and to economic elites; that most knowledge producers have always been attentive to the interests of those elites; and that science has always directly contributed to, and has been a major resource for, changes in social ideologies (Pestre 2003, p. 250).

And yet, in modern times, the official representatives of society have in many countries expressly and, in fundamental terms, acceded to the idea that the scientific quest for truth should be an autonomous activity, to a large degree freed from the obligation to deliver quick solutions to social problems at the current time.[2] Thus, a new social contract was formulated, the portal paragraph of which was an offer to the researchers to seek out the knowledge that they themselves considered interesting and important.[3]

The movement toward this mature approach took time. At latest, it began with the Enlightenment movement in the 1700s, and it might have reached its peak in the late 1900s, 200 years later. The movement was not one sided either – which movement is? – and sometimes, of course, it lost ground. The empires of Stalin and Hitler represented such regresses, with well-known disastrous consequences for the development of the sciences.

It was, among other things, with reference to the scientific devastation in the Soviet Union and Germany that Robert Merton and Vannevar Bush each formulated a plea at the end of World War II for the freedom of basic research.[4] The control from the top of the research in the Soviet Union and its vassal states were cited as deterrent examples. It worked for quite a few years. But in 1989, when the wall fell, the example fell too. And the more the memory of the scientific misery over there fades away, the weaker the resistance becomes against the political (and commercial) restrictions on the scientific freedom in the Western world. The previously so liberal politicians from the West now formulate a research policy of their own which, to some degree, resembles the authoritarian system that they recently unanimously repudiated. Amid further confessions to the value of the free inquiry (but while more and more eagerly denying the possibility of distinguishing between basic research and applied research), they express more frequently their intention to steer basic research in a "strategic" direction, that is, toward research that will help solve current social problems of various kinds.[5]

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[2] Jörnesten 2008; Slaughter and Leslie 1997, introduction. See also Nybom's and Widmalm's contributions to this volume.

[3] See Weingart 1997, pp. 609–610, where the idea of the contract is formulated but where the author, in contrast to me, believes in a continuation of the contract. See also Jasanoff 2003, p. 227 ff.

[4] Merton (1942), in Shapin (2004, pp. 338–339); 1945, referenced in Widmalm (2008).

[5] Compare Nybom (Chap. 2) and Widmalm (Chap. 3) in this volume.

The pattern reappears in Sweden. The new social contract in Sweden for free basic research took form sometime in the 1960s[6] but appears, at the beginning of the new century, to be in a state of dissolution. It is namely becoming increasingly clear how the praise of free basic research is being reduced to nothing more than accolades, while the actual research policy rapidly moves away from this enlightened view of the science's role in society (See, for example, Leijonborg 2008).

The Research Bill of 2008 is a poignant example of that. It assigns a research policy that at best can be characterized as planned-economy capitalism: political control from the top of the research for commercial needs of the economy (Proposition 2008/09:50).

There is much pointing in this direction, here as elsewhere: among other things, the craze for the "entrepreneurial university,"[7] an ever stronger demand that basic research should be governed by the needs of the economy (Sundgren et al. 2008), and the increasingly maintained, but never confirmed, speech that we have taken the step from "mode 1" to "mode 2" (which, in modified form, is known as Triple Helix).[8] The latter is equal to the claim that we have moved from a state where there was a so-called linear connection between basic research, applied research, and further applications toward a condition where:

> science is characterized by […] the fluent movement of short-term task-force teams of experts to problem domains, and by the primacy of social and economic problems in establishing what spheres of knowledge should be developed.

That is how Terry Shinn summarizes the whole issue.[9] This has led society to increasingly reject "the legitimacy of science's prerogatives, its institutional autonomy and cultural identity." (Shinn 2002, p. 600). Oddly enough, this "academic capitalism" enters into an alliance with a postmodern relativistic approach to knowledge, according to which scientific truth is considered to be the result of a sort of social negotiation with relevance as one of its main criteria, while the intra-scientific criteria has lost in importance.[10]

Now, of course, there are still many who believe that the social contract for free basic research deserves to be upheld also in the future. They are activated in the presence of the onslaught by all the players who want to demolish it. I join that circle. But why do I do so, if I maintain at the same time that all science ultimately

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[6] Jörnesten (2008), Chap. 3. Also claimed by Nybom and Widmalm.

[7] For example, Dan Brändström's government commission on future research resources, *Resurser för kvalitet*, 2007; Kirsebom (2008).

[8] The original text on mode 1 and mode 2 is Gibbons' (1994). The original text on Triple Helix is Etzkowitz's (2005). Etzkowitz published on this issue as early as in the 1990s.

[9] Shinn (2002, p. 600). About the groundlessness of this description, see, among others, Gustavsson (2007).

[10] Shinn (2002, p. 608), Nowotny et al. (2003, pp. 179–194), Nowotny et al. (2001, Chap. 11), Slaughter and Leslie (1997), inter alia. Chap. 1. That what is *held to be true* is the obvious result of a kind of negotiation must be distinguished from something that is *actually true*, regardless of what is held to be true. See also Nybom's contribution (Chap. 2) in this volume.

is based on nonscientific motives? How does one bring together the requirement of scientific freedom with the observation that no science is free from nonscientific considerations? If science commences in the nonscientific, would it not also be reasonable that it comes to an end outside itself? Ought it to not serve all citizens and not only the researchers themselves, not least all taxpayers who are partly financing it? Otherwise, science would become an introverted *l'art pour l'art*. And what would be the meaning of that?

That was a lot of questions. They require a full set of responses. I will try to elaborate on some of them below.

To begin with, the plea that research should be free does not imply any kind of statement regarding free will nor that scientists would be unaffected by circumstances in their lives when making their choices. Ideally, the freedom I am talking about just means that the academy, as an institutional system, has autonomy and that the individual scientists, at all levels in the academic system, are granted the right to decide what to research about. That the freedom of individual researchers varies in practice – compare the doctoral candidate's status in the lab with the professor's – does not prevent the system itself from being free from other systems in society. This freedom to choose is a feature of what we call basic research. It is an activity that can hardly be defined but which is characterized by being long term, comprehensive, and sustainable, together with being the answer to the researchers' own initiatives and not to orders taken from stakeholders in the surrounding community.

Furthermore, I agree that science should not exist for its own sake, at least not the part of the sciences that the official society spends considerable resources on. The government-funded scientific research is not to be considered as one of the many hobbies that the state also may have good reason to subsidize sometimes, as opera and youth sports, for example, or why not genealogy. The results of the scientists' labors should ultimately be utilized to meet all sorts of human needs. Of course not all research and not all needs, for waste occurs in all activities and far from all need gratification has the sciences as a prerequisite. But at all events, a significant proportion of all research findings should be able to provide some kind of public benefit.

Public benefit – what is that? According to the definition prevalent in most officious or official political contexts, it is equal to economic growth. But that is a narrow and unimaginative definition, firstly because it obscures the fact that a society is not an abstract figure alongside the very people that interact in a given region on Earth and, secondly, because it confuses means with goals. That is, it mixes up the process that sometimes, but far from always, serves this goal (economic growth) with the movement toward a more pleasant life and improved relations between us humans. And it is the latter that must be the goal, that is, the public benefit, is it not?

But even if economic growth could be described as a societal goal (and this would be justified by the fact that the resources for long-term goals can be regarded as a short-term goal), it would still be unreasonable to view it as our earthly ambitions *overarching* goal. For in that case, it would not be able to come into conflict with other societal goals. But the growth target does that constantly. It is, for example, easy to imagine a situation where we would be forced to choose between growth

and increased equality. Increased equality in combination with poorly developed childcare is likely to affect fertility adversely, which in time, through its impact on the age distribution, could also have a negative impact on the economic growth (see, for example, Grönlund and Halleröd 2008). So, how would you choose in such a conflict of goals? Or how would the choice be made, for example, in the conflict between growth and certain climate goals?

Of course, the overarching societal goal described as "the desire for a more pleasant life between us humans" could also mean many different things: ranging from equitable distribution of scarce material resources, via the enjoyment of satisfying one's curiosity by listening to a lecture on some of the latest scientific findings in the company of others, to screaming like apes together at a football stadium. And such a goal can easily be broken down into a number of intermediate goals which, like the example of equality and growth, cross and, at times, exclude each other. But in its general description, it is conflict-free, unlike economic growth viewed as the overarching societal goal.[11]

All these goals could also be described as a boundless amount of desires divided into more and less distinctive sets for all citizens (and future citizens), who together form society through their interactions. To realize their desires, they sometimes make use of, well, more often than they really know, the large knowledge pool which is mostly derived from basic research. In our capacity as researchers, we do not interfere with the citizens' (which we, of course, are a subset of) use of our findings, but we share a strong interest with the users of knowledge that these findings should be reliable. And it is precisely for that reason that the scientific knowledge-producing sector must not be suspected of following different and changing political, commercial interests. It should not either allow itself to be limited by national interests. All people, wherever they happen to live out their days, are invited to share the sciences' achievements, and the researchers should be above becoming some kind of athletes in the world championships of science, which the rhetoric of research policy sometimes makes it look like.[12]

Generally speaking, it is precisely with regard to the interests of all citizens that we need a knowledge-producing sector which is guaranteed great freedom from short-term involvement of various citizens' special interests.[13] Noninterference is the best strategy to instill courage in the researchers to oppose dominant contemporary conceptions when viewed necessary, and thus achieving true scientific innovation. It does not come into existence through political decrees, which all too often contain explicit or implicit expectations of results that point in the desired direction.[14]

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[11] Compare Nybom (Chap. 2) and Widmalm (Chap. 3) in this volume.

[12] For an almost identical position, see Rider (2008).

[13] This is also the position taken by Nybom (Chap. 2) in this volume.

[14] In spring 2008, I led a debate in which both right wing and left wing Swedish members of parliament openly confessed that they only want to take part of research results from publications that they know share their own ideological stances.

These viewpoints are the main arguments why basic research deserves being free from outside control. For the same reasons, we researchers, inversely, refrain from using our academic positions as tribunes to pursue our own ideological and political interests.

This is the negotiated settlement of the social contract, viewed from the researchers' vantage point: we have gained one freedom and given up another.[15] But the fact that we as researchers, in the human as well as other sciences, have as a primary function to produce knowledge rather than being participants in the public debate does not hinder us from sometimes still having reason to make our voices heard in the debate – let alone that we, in our capacity as citizens, of course participate on equal terms with everyone else in the democratic conversation. We have every reason to make ourselves heard on the occasions when the research we represent becomes distorted or otherwise incorrectly reproduced in the public debate. Such things happen every day, especially when poorly briefed journalists want research results to stand out as more absolute and controversial than they really are, or when they want to conjure up the image of tantalizing intra-scientific disputes, when it is actually more of a nuanced discussion going on than a scientific war. By activating us on occasions like these, we would at best also be able to contribute in spreading the model of conversation that we tend to adhere to, the model in which the substantive argument is critical to what we hold as true, while rhetorical tricks and effects should be without significance.

## Research Regimes and the Conditions of Science

A question that one might ask is how the scientific research is influenced by different science policy regimes. Or more narrowly, if basic research is allowed the freedom that its representatives want, will it then distance itself from contemporary societal concerns and become unworldly through and through? Is it already that today? The freedom of basic research may in that case have to be reduced somewhat.

As far as I know, it is currently not possible to give a reliable answer to either the wider or the narrower question. As long as there is no such research, one has to be content with going on experience. It tells me that researchers in the fields of humanities and social sciences (henceforth simplified to the human sciences[16]) in their choice of subjects and questions are markedly influenced by what is happening in society. I base this on the general view that I have acquired through my many years of Swedish and international work with scientific assessments, not to mention what I have learned through my work at the Swedish Research Council (VR).

[15] About a 100 years ago, restrictions in the freedom to preach ideology and politics from the lecture's desk were viewed in some quarters as an encroachment of the academic freedom. In this matter, see Josephson (2005), for example, p. 22.

[16] Here, I adhere to Janken Myrdal in his reduction of concepts in Myrdal (2005).

Examples can be taken from several sources. One such is the nuanced and outstanding human scientific research that we have noticed in various ways through a series of open seminars in recent years at VR. These have been about the changing conditions of democracy under the pressure of the continuing globalization; social reconciliation after social crises; the social changes in China; global diffusion processes; Sweden and the Holocaust; man's need for fiction (film, theater, literature, etc), well documented by the enormous amounts such consumption turns over annually; prognoses; Russia's development; and more.[17] Other illuminating examples are the dialog seminars, organized in Visby by VR during the so-called Almedalsveckan, between, on the one hand, politicians and, on the other, researchers who, on their own initiative – which said, not as an assignment from politicians or others – have engaged in research on the aging population, smart sanctions against authoritarian regimes, discrimination in the labor market, and other topics of obvious relevance to contemporary society.[18] A final example can be taken from my own attempt to create a general view of distinguished European research on dominating social development trends. Here I have found that the researchers largely engage in issues such as demographic changes (including general demographic growth patterns such as the altered age structure, the urbanization, and changing migration flows), the globalization and the conflicts that have followed in its wake, and the modified conditions for the welfare state and welfare policy, along with other issues related to the so-called learning society.

Common to the research in the above-mentioned examples is not just its social relevance but also that it is not commissioned work from society's political or commercial stakeholders. Instead, in most cases, it has come about through the researchers' own initiatives. If one adds to this how the Swedish universities now choose to allocate their resources in their strategic investments, it is obvious that today's researchers respond in a very sensitive manner to what is going on in our time.[19]

Perhaps the researcher in former times was a socially cutoff figure who could devote most of his or her waking hours to idiosyncrasies, even if the world came tumbling down all around. But it is probably just a romantic, or unromantic, myth. Anyhow, today's researchers are in general involved in society in a completely different manner compared to before. This will presumably influence their choice of research. Perhaps the impact is even too large, and the ability to withstand more and less short-term currents in time, too small. Where today is a Gregor Mendel who in seclusion engaged in such research that, through time, lent enormous importance to the development of society, although he himself could hardly have imagined that while being in the midst of it?

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[17] http://www.vr.se/huvudmeny/forskningvistodjer/seminariedokumentation/humanioraochsamhallsvetenskap.4.513828ee10b88e1e3918000146.html.

[18] http://www.vr.se/huvudmeny/forskningvistodjer/humanioraochsamhallsvetenskap/deltagandeialmedalen2008/programsamsprak2008.4.41c4c50b1195b507507800010824.html.

[19] Certain themes can be found in almost all the universities' research strategies: for example, environment and climate and nanotechnology.

Just like in the case of Mendel, it is sometimes even so that the advances in basic research can become the very basis for the possibility of formulating precise social development targets at all. "Who," asks Tord Ekelöf in a recently published Op-Ed article, "felt the need to generate electricity and distribute it in society before the basic laws of electricity were discovered? [the writer's translation]" (Quoted in Rider 2008, p. 32) Similar rhetorical questions could be addressed to other expansive areas of application, which have had a long-term development within basic research as a prerequisite, not least in regard to the enormous development of the information technology in recent years.

To those who fear that basic research will become identical to unworldly research, we can just say danger passed. Inversely, those who believe that society and its citizens have much to gain from long-term knowledge building have cause to be concerned about the mistrust of today's narrow-minded research policy for the free basic research.

The most substantial reasons for this have already been presented. It remains to add that the basic scientists, in their relative isolation, precision, and slowness, have been able to achieve a kind of scientific innovation that otherwise would not have been realized. And precisely in this way, they have been shown to have a remarkably good ability either to predict future social problems long before other citizens do or to provide the necessary knowledge base for such predictions (again, without themselves always being aware of the future benefits of their findings). The greenhouse effect is a frequently used example of the former, as are the problems caused by the gradually changing age distribution of the population, which have been predicted for a long time in the social sciences.[20] The avian influenza is an example of the latter. Here, a fundamental knowledge base on the behavior of birds has been built up for years, which will be of use now that the avian influenza has developed, even though the virus behind the alarming disease hardly served as a motive for this knowledge building.[21]

So, the conclusion is given: the scientific mission can only be properly executed if society provides the researchers with an arena for basic research, protected from meddlesome interferences by too shortsightedly, too medially alarmist, and too ideologically or politically motivated encroachments.

That does not imply that all research shall be free. More or less urgent social problems, which require solid scientific efforts to be solved, constantly show themselves. It would be irresponsible to not also address such problems by using the research apparatus that has been built up with the help of extensive fiscal resources. But this illustrates, at the same time, that the state premeditatedly must spread the risks in their research investments and avoid putting all the research eggs in the same basket. That would also be irresponsible. Yes, this would be a waste of the state's funds, whether all the eggs were laid in the basket for already identified social problems or in the basket for freely chosen research problems.

[20] About the latter, see Malmberg (2008), about the possibility of making predictions within the social sciences by using demography as an example.

[21] The avian influenza is mentioned as an example in *Vetenskapsrådets forskningsstrategi 2009–2012* (2007).

If all the eggs were put in the former basket, the risk would be great that resources were wasted on finding solutions to problems of which a large share would soon prove to be irrelevant due to the societal development, resources that otherwise could have been used to build a knowledge base for solving future, not yet perceived, problems. If all the eggs instead were put in the latter basket, the risk would be the opposite: vital, knowledge-intensive problems would have to be solved at random, with unclear consequences and with a great deal of unusable knowledge.

Nevertheless, if you take into consideration how resources are distributed throughout the Swedish research and development sector, there is nothing to indicate that basic research today receives too many of the research eggs. Of the total investments in research and development (R&D) in Sweden, all in all around 105 billion SEK per year, no more than 10% is allocated to activities that can be broadly characterized as basic research.[22] Moreover, judging by the tone of the political research debate, that share risks being reduced in the future, although no reasons have been put forward to why this should happen.[23] But the lack of reasons does not mean that there are no motives for channeling funds from the basic research to the strategically and commercially motivated research.

## The Mission of the Human Sciences

My hope is that the discussion above has made clear that the idea of a scientific social mission is fully compatible with the defense of independent basic research.[24] If the reader agrees, the principle has been won. However, an important side issue remains, before I put down the pen for now: the question on how one should view the human sciences in relation to the scientific mission. I will start with two simple observations.

Firstly, the human scientists' fundamental mission is to produce knowledge on what they are especially trained to explore – just like researchers in other fields.

Secondly, the human sciences must follow the same basic logic, in the broadest sense, as in any other production of knowledge. This fact, however, does not prevent one from finding methods here that would be applicable only on a small scale in other sciences. The anthropologists' participant observation is an example of that. The indirect methods that historians use – through the remains of the past (particularly

[22] Hyenstrand et al. (2008, p. 11). The whole issue is difficult to assess because there is nowhere to find any separate disclosure of expenditure on free basic research. In 2005, 22 out of 104 billion for the R&D sector went to the higher education sector, the sector where most of the basic research takes place by far. But much of that expenditure concerns other areas than free basic research, for example, postgraduate research studies. On the other hand, some basic research is done elsewhere. Ten to fifteen percent is an informed guess that research policy analysts tend to arrive at.

[23] In a conversation with Peter Honeth, State Secretary in the Ministry of Education and Science, I asked him precisely that question: "Is there any reason for reducing the free inquiry share in relation to the total volume of research? [the writer's translation]" He replied in the negative.

[24] As mentioned above, the term human sciences used here also represents the social sciences.

in the form of preserved texts) gain access in the present day to how things once were – are another example. This makes their method of working different from, for example, the physicists' experimental staging of events, which afterward can be studied directly. But human scientists also use methods that are usually associated with natural science, for example, the archaeologists with their phosphate analysis, while, conversely, astronomers, evolutionary scientists, and other scientists with a focus on the past find themselves, in some ways, in a methodical predicament resembling that of the historians. Nothing of substance should stand in the way for both sides, the humanists and the natural scientists, acquiring more of each other's methods.[25]

So, the actual and potential similarities between the human sciences and other sciences are greater than they might appear to be at first sight. Yet the human sciences offer something that other sciences do not. What sets them apart, however, is neither the method nor the logic,[26] but that human scientists, unlike other researchers, study in particular people, not in general terms but as "decision-making, and in a strict sense, acting social beings with a unique capacity for innovation, learning and self-reflection [the writer's translation]," as I worded it in one of the Research Council's strategic documents. About the human sciences, it further reads:

> It also means that they largely deal with how we, aided by experience, can in the long-term and cumulatively change ourselves and our living conditions. Living conditions here refer to everything concerning our relations to each other and the environment that we are a part of, i.e. a good deal more than the immediate conditions for economic growth. Solid knowledge of the reasons for, and the consequences of, human decision-making is of vital importance for societal development. And it is essentially the human sciences and social sciences that represent such knowledge production [the writer's translation].[27]

And this, that the human scientists are alone in their particular study of their own species, gives them a special mission besides the general scientific mission that they share with others working in the world of science. Who, for example, would theoretically and empirically seek the social, psychological, cultural, or economic causes of war and peace, if the humanists did not?

It requires scientific engineering to build bridges, and that is also what is required to bomb them to pieces. But it requires a different kind of scientific art to understand why the bridges are bombed, how to prevent it, and how to set about restoring societies when it nevertheless happens. In those instances, nothing can replace the human sciences. It is true that we still know only too little about war to have the instruments to achieve peace. But this only calls for further efforts, here as in other fields, where the scientific mission would not otherwise be done.

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[25] About the distinctive character of historical criticism, see Jarrick (2005b).

[26] It could possibly be seen as a methodologically distinctive orientation that humanists often have the human individual as the lowest analytical unit (e.g., in contrast to physicians) and the collective of individuals, for example the world's population, as the highest analytical unit (e.g., in contrast to astronomers). In this matter, see Jarrick (2005a).

[27] http://intranet.vr.se/download/18.76ac7139118ccc2078b800011760/Strategiska_forskningsomraden_VR_2008.pdf.

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# Part II
# Economic Models

# Chapter 5
# Contemporary Research and Innovation Policy: A Double Disservice?

**Alexandra Waluszewski**

## Introduction

Innovations that can make new and old companies prosper, invest, employ and hereby contribute to tax incomes and to a nations' growth – through solutions that at the same time can solve problems related to economic, environmental and social issues. In short, this is the contemporary political demand list on innovation. With the current societal challenges in mind, the governmental expectation on what innovation, supported by national innovation policy, can contribute with is undoubtedly high.

> Current economic and social challenges are enormous and often global in nature. Innovation can help accelerate the recovery and put countries back on a path to sustainable – and greener – growth. (Ministerial report on the OECD Innovation strategy, May 2010)[1]

That established and new companies will benefit from scaling up, and industrialising potential innovations is thus taken for granted. In fact, that the contemporary innovation policy will be beneficial for business renewal and business prosperity is both a basic assumption and a prerequisite for reaching the goals of growth, as well as new technological and organisational solutions corresponding to the great challenges of society, climate change, environmental problems, unemployment, health, etc.

> It [innovation] is a powerful engine for development and for addressing social and global challenges. And it holds the key, both in advanced and emerging economies, to employment generation and enhanced productivity growth through knowledge creation and its subsequent application and diffusion (Ministerial report on the OECD Innovation strategy, May 2010, pp. 1–2).

[1] http://www.oecd.org/dataoecd/51/28/45326349.pdf, p. 16.

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An important step in boosting the 'innovation engine' is to influence the creation and transfer of new knowledge from the university to the business world. This ambition does not only include the volume aspect but also the idea that research can, in beforehand, be steered towards the need of the business world. As the OECD (2010) innovation strategy continues:

> Criteria for evaluating research performance should be adjusted to reflect the multiple missions of research institutions, including knowledge transfer. Clearly defined expectations and boundaries for collaboration and well-trained technology transfer personnel are essential to achieve this goal (Ministerial report on the OECD Innovation strategy, May 2010, pp. 1–2).

That such a steering has severe consequences for content and direction of research has, with Slaughter and Leslie (1997) in the forefront, been discussed by scholars in a wide area of research field; STS included, and the societal consequences of this change is the main theme in the third and fourth section of this book. But what are the effects for business renewal – and for the policy support of business renewal? Is the contemporary innovation policy a door to renewal of the business landscape at large – or does it mainly lead to investments in *expectations* on innovation, with benefits for a rather restricted part of the business *and* the university settings?

The main research question of this chapter concerns the opportunities to support business renewal and growth through public-funded policy investment given the contemporary policy principles. In order to shed light on this question, the following aspects have to be considered: (a) the assumptions about innovation that the contemporary governmental commission rests upon and (b) basic characteristics of innovation outlined in process-oriented studies of the content and function of the business landscape.

## *The Policy Practitioners' Complaint: A Point of Departure*

> We are mainly supporting research. We can hardly support renewal processes that are initiated by companies and carried out among companies anymore, even if we can identify significant industrial and economic benefits of such processes for the policy investing community.

The quotation above is a complaint concerning what the contemporary governmental innovation policy commission has meant for policy in practice, expressed by one of the participants in the so-called GLOVAL project. In 2008, the policy development project abbreviated GLOVAL, 'Global Value Chains as an Emerging Challenge for National and European Research and Technological Development Policies', got funding from the European Union's Seventh Framework Program and policy agencies from ten European countries participated in the project.[2]

[2] Initially, representatives from five European policy organisations took part in the project: The Swedish Governmental Agency for Innovation Systems (Vinnova), Austrian Research Promotion Agency (FFG), Institute for Promotion of Innovation by Science and Technology (IWT) Flandern, The Public Agency for Technology of the Republic of Slovenia (TIA) and the Scottish Enterprise. During 2010 five new partners joined the project: Ministry of Employment and Economy, Advancis, Finland; Pera, UK; Inno Group, France; Temas, Switzerland; and Forschungszentrum Jülich, Germany.

The funding included also external research on policy investments in a transnational business landscape, which the author of this chapter has been responsible for.[3]

The GLOVAL project was initiated by frustrated policy practitioners, and the main objection concerned how likely it was that the politically sanctioned innovation 'recipe' would result in the expected social and business benefits. Firstly, almost regardless of were in Europe their policy agencies were located, the policy practitioners were exposed to a similar political interpretation of where to find the main sources of innovation – in academic and other public research. Second, they were also exposed to the implicit assumption that such policy actions should result in economic benefits *within* the borders of the community that made the policy investment. The policy practitioners meant that they were squeezed between two rather different views of innovations: On one hand, they had to cope with a governmental commission saying that supporting certain kinds of research and technological development processes would lead to innovation, industrial renewal and growth *within* the policy-investing nation. On the other hand, in their practical work, the policy practitioners' were faced with companies that were embedded into complex patterns of interdependencies to counterparts that very often were located outside the borders of the policy-investing nation, and which were engaged in transnational technological development projects – often without direct involvement of academic research.

The experiences of the policy practitioners' in the GLOVAL project is the empirical point of departure of this chapter. The empirical data used is based on two types of sources: Firstly, between 2008 and 2011, the author took part in GLOVAL workshops and project meetings as a participating researcher in order to get a deeper understanding of the policy practitioners' experiences of the governmental commission they are exposed to, particularly their practical experiences of linking policy-supported projects with business development and renewal within the policy-investing communities. OECD and EU innovation policy documents were also utilised to shed light on this issue, as well as a specific policy agency's documents concerning funded projects. Secondly, empirical-based, process-oriented research on innovation was utilised to catch the characteristics of the contemporary business landscape, including the content and effect of interdependencies that stretch across company and organisational borders, across space and time, with the work carried out in the IMP setting as main source.[4]

[3] An extended report based on this research is available in Waluszewski 2011.

[4] The work of the informal research network labelled the IMP (Industrial Marketing and Purchasing) Group is based on a shared interest in the content and effect of interdependencies in the business landscape. The challenge of how to deal with an interdependent, interactive business landscape has, over the last decades, triggered a series of research projects where different aspects and effects of interaction and relationships came to the fore. The work of the IMP Group is reported in some dozen books, about 2,000 papers and more than 130 Ph.D. studies. For an overview, see, e.g. Håkansson et al. 2009 and www.impgroup.org.

## The Innovation Policy Commission

The first impression of innovation policy principles, presented by OECD[5] and EU[6], does, however, not support the policy practitioners' complaint, but explicitly express an awareness of a 'globally' connected business world. This is mainly expressed through emphasising the importance of cooperation among different kinds of stakeholders, such as public authorities, users, regulators, industry, consumers and 'poles of excellence' (Lundvall and Borrás 2005; Eklund 2007; Elzinga 2004; Håkansson et al. 2009; see also the previous section of this book).

The innovation commission to public-funded policy agencies is certainly not only influenced by OECD and EU advice but is complemented by national political agendas where a number of different issues are added. However, the policy practitioners experience that the politically sanctioned tasks given to their respective policy agencies are rather similar and above all are rather similar to what is stated in OECD and EU policy documents has also been observed by researchers (Elzinga 2004; Eklund 2007; Elzinga and Jamison 1995; Lundvall and Borrás 2005). Under a surface of individual nations' policy agendas, there is, argue Elzinga and Jamison (1995), an overall international convergence, where OECD's policy advice has been an important source of inspiration. Or, to use Lundvall and Borrás' (2005, p. 602) wording: OECD has 'played a unique role among international organisations in the diffusion of ideas about innovation policy'.

Interestingly enough, the systemic aspects of innovation can be regarded as a common denominator in contemporary OECD and EU policy documents, where organised interaction and network building among different kinds of 'stakeholders' is appointed a key policy action. As it is expressed in the 2010 OECD innovation policy agenda:

> Innovation today encompasses much more than research and development (R&D), although R&D remains vitally important. Innovation rarely occurs in isolation; it is a highly interactive process of collaboration across a growing and diverse network of stakeholders, institutions and users.[7]

However, a closer look at the systemic aspect reveals that it only is considered on a high level of abstraction. The contemporary innovation policy, or what has been labeled 'the 1990s science and innovation policy doctrine' (Elzinga 2004; Elzinga and Jamison 1995) is resting on three basic ideas: that (a) knowledge development mainly takes places *outside the business landscape*, and (b) *organised cooperation* among the university, industry and government will create innovation and (c) development and economic utilisation of knowledge takes place in close *spatial proximity*.

Thus, the '1990s doctrine' does not only launch the idea that university and other research is a critical and most often underutilised source of innovation. It also stresses that a successful 'marriage' between science and industry spurs innovation

[5] See, e.g. http://www.oecd.org/department/0,3355,en_2649_34273_1_1_1_1_1,00.html.

[6] See, e.g. http://ec.europa.eu/enterprise/policies/innovation/future-policy/index_en.htm.

[7] http://www.oecd.org/dataoecd/51/28/45326349.pdf, p. 2.

and industrial renewal, and that such a marriage can be arranged through policy action. Last, but not least, it assumes that the economic and social benefits will occur within the borders of the policy-investing nation (Slaughter and Leslie 1997; Nowotny et al. 2001; Edquist 2005; Lundvall and Borrás 2005; Widmalm 2008; Benner and Sörlin 2008).

As been discussed by Magnus Eklund in the previous section, a number of sources of inspiration can be traced to the '1990s doctrine'. There are empirically observed changes in the business landscape, where company specialisation and outsourcing gave rise to a new and increasing number of *visible* alliances and partnerships across company, organisational and national borders (Elzinga 2004; Håkansson et al. 2009). Then there are the changes which all can be related to 'a more neo-liberal climate' and increased reliance on 'market forces' instead of governmental involvement in technological and industrial development (Högselius 2010). A first is EU legislation based on neo-liberal market theory which does not allow individual member states to 'favour' domestic companies, for example, as acting as supporting customers for new technologies (Högselius 2010; Edquist et al. 2000). A second, related change is the introduction of the so-called new public management, aimed at transforming the public sector to cost-efficiency, something that have encouraged universities to emphasise their role as suppliers of research results and potential innovations to industry (Bleiklie 1998; Olson and Sahlin-Andersson 2005; Nowotny et al. 2005). Finally, theoretical approaches on innovation and growth, with the common denominator that they are all close to the general market theory, has been an important source of inspiration (Slaughter and Leslie 1997; Waluszewski 2004; Håkansson et al. 2009).

Whether the policy interpretation of these theoretical sources, with the 'National Innovation System', the 'Triple Helix' and the 'Cluster' approaches in the forefront, is appropriate has been discussed among scholars behind them, but all of these are frequently referred to in OECD and EU policy principles.

*The understanding that knowledge development takes place outside the business landscape* is built on the 'National Innovation System approach' (Freeman 1982, 2002; Lundvall 1988, 1992; Nelson 1993). The idea that it is possible to outline and reinforce 'national innovation system' has been turned into something of a general policy action within the EU as well as within individual member states. The latter has inspired a number of measures, for example, the development of quantitative indicators of national innovation systems and advice on how to build general innovation systems as well as such for different industrial sectors. The core of this advice concerns how scientific and other new knowledge can actively be taken out of its 'isolated' existence at universities and other public knowledge producing units to contribute to innovation, industrial renewal and growth.

*The idea that the state, the universities and the industry can benefit from an organised interaction among them as groups* can, besides the National Innovation System approach, be traced to the 'Triple Helix', model, with the sociologists Etzkowitz and Leyersdorff (2000) in the forefront. The message from the Triple Helix model is that through an organised interaction among university-industry-government, the 'network drivers' act as 'stage keys' and create 'spiral movements' that 'lift' the

dynamic to new levels (Etzkowitz and Leyersdorff 2000). The authors do not go into exactly how these 'spiral movements' work or how the interactions contribute to transforming scientific contributions to innovations, but the policy interpretation is that it is possible to create a direct transfer of academic research results to industry through a governmentally organised interaction, where the governmental role is to create links among academia and industry (Etzkowitz and Leyersdorff 2000; Etzkowitz 2004).

*The idea that the development and economic utilisation of knowledge takes place in close spatial proximity* has, along with inspiration from the 'National Innovation System' and 'Triple Helix', traces from the 'Cluster' approach (Malmberg and Maskell 2002). Although the Cluster scholars' original attempt was to analyse the content and function of geographically defined clusters, it has been embedded into the commission of policy practitioners as a tool to possibly build clusters (Porter 1990, 1998; Powell 1998; Saxenian 1994; Lorenzoni and Baden-Fuller 1995; Malmberg and Maskell 2002).

## *Systemic Features Addressed: But Only on an Aggregated 'Group' Level*

Although the '1990s policy doctrine', as well as its theoretical sources of inspiration, stresses the systemic features of innovation, it is mainly made on an abstract 'group level'. The focus is on the possibility to create processes among:

1. Nonbusiness knowledge producers as a group
2. Policy/transfer organisations as a group
3. Companies as a group

However, interdependencies and different rationalities within these groups are simplified away. Furthermore, a closer look at how companies as a group is understood reveals a rather traditional market model inspired view of the processes going on between companies, that is, companies are assumed to be independent (Wilk 1996; Marglin 2008). At the same time companies as a group are regarded as utmost important for the creation of national economic benefits of the policy investments. For example, although companies are assumed to acquire knowledge from external parties, they are also assumed to independently decide where to acquire this knowledge, how to use it internally, and if they do not find it useful, how to sell it in the market.

With this abstract view of the systemic features of innovation and the business world, it is easier to understand the complaints from the policy practitioners. The high level of abstraction and the focus on the systemic aspects between the groups 'science', 'government' and 'industry' works fine as a foundation for a governmental innovation policy commission to policy practitioners: It makes it possible to identify some important 'nodes' in 'science' and 'industry' in *beforehand*, which can be connected to industry through governments' policy commission. However, when

broken down to (a) national and regional programmes for innovation support and (b) evaluation criteria through which policy practitioners can analyse the expected outcome of RTD applications, there is a lack of awareness of and tools to outline how transnational interdependencies intervene in the ability to create national benefits (Waluszewski 2011).

Whether conscious or not, the above presented underlying assumptions colour the contemporary governmental commission on innovation policy and lead to a very narrow policy investment logic. The policy practitioners' experience is that they are not allowed to act on effects that cannot be directly estimated or that are assumed to appear in a long-term perspective. Thus, there seems to be losers in the wake of a contemporary commission on innovation policy. But then who are the winners?

## Positive Effects for Academic Research: Engaged in 'Packaging' of Research Results

The contemporary governmental commission on innovation policy has some positive effects for academic research – at least for parts of it. In order to be transformed into a commercial resource usable for exchange at, as expressed by OECD,[8] the 'knowledge market', research results must be able to be 'packaged' and 'productified' in terms of patents, prototypes, etc. A first effect, which can be positive for researchers behind research results that can be 'productified', is that they acquire a shape that makes them visible and able to be sold to investing companies. A related effect, which can be positive both for the researchers behind a research result possible to 'productify' *and* for the academic organisations they belong to, is that such research results are easy to measure. Finally, if researchers are interacting with companies investing in the commercialization of research results, their ability to create research results capable of being packaged and 'productified' will probably increase. In total, this means that the contemporary research and innovation policy *creates advantages for particular academic research areas;* those in which research results can be packaged and 'productified' and that furthermore can be sold due to expectations that future economic benefits will appear shortly after their development.

## Negative Effects for Academic Research: Engaged in Indirect Utilisation

The contemporary governmental commission on innovation policy also has some clear negative effects that will probably affect the main part of academic research. A first negative effect is that research that cannot be packaged, 'productified' and

[8] OECD 2010.

sold to commercial actors due to an expected ability to deliver economic benefits shortly after they were developed will have a lower priority, that is, research which effects on business or other parts of society is difficult to outline in advance. Research that, through learning and teaching is embedded into people and whose use is indirect, is hidden and appears in a different time, at a different place and in a different shape as compared to when it was developed, will not be supported. *Thus, research that cannot be adapted to the limiting requirements of a knowledge market cannot expect support from contemporary innovation policy*. This means that the contemporary governmental commission on innovation policy will negatively affect the variety of research, especially research that does not adapt to short-term interests.

## Positive Effects for Business: Engaged in 'Betting' on Research

The contemporary governmental commission on innovation policy has some positive effects for business, at least for some parts of it. As soon as a research result has been 'productified', in terms of a patent, a prototype or a product, companies can invest in it – based on expected future economic benefits. One way for investing companies to economically benefit from research results is to 'bet' on it. For example, venture capitalists and other financiers can 'bet' on which company, commercialising which 'productified' research result, will yield a positive return on investment within a certain amount of time. This type of knowledge market is based on the first investor's speculation in the ability to be bought out by other investors. For example, if the 'productified' knowledge is embedded into a start-up company, an 'exit' can be created through an introduction on the stock market. Another way for economic actors to 'bet' on economic benefits of research results is through established companies' investments in 'productified' research results, based on the expectation that they will create future benefits in terms of new/renewed products, processes and/or services. Whether it is venture capitalists or R&D organisations of established companies that are buying research results, the common denominator is that they are acting on expectations of future innovations. This means that contemporary research and innovation policy *have positive effects for investors and/or established companies with such heavy economic 'muscles' that they can 'bet' on research results' ability to be transformed into innovations*.

## Negative Effects for Business: Engaged in 'Muddling Through'

The contemporary governmental commission on innovation policy also has some clearly negative effects for the use of knowledge in business. If, as suggested by policy, the use of knowledge in business increasingly occurs through a knowledge market, the use will also be directed to a limited group of economic actors, those

who can 'bet' on or invest in 'productified' research results based on the expectations of future innovations and return on investments. Furthermore, when larger research fields are adapted to the requirements of research results able to sell on a knowledge market, it is a rather narrow group of economic actors that will influence what types of research results will be available in this market.

Perhaps the most severe negative effect comes from the contemporary governmental commission's limited understanding of the 'muddling through'[9] like processes that takes place in established customer-supplier relationships in transnational business networks. Consequently, companies in need of knowledge development starting out from established supplier and customer settings will not be favoured by the contemporary governmental commission. *Thus, companies that do engage in 'muddling through' instead of 'betting', and companies that do not have the economic 'muscles' to invest in 'locked' research results, but that have to start out from investments in place in the supplier and user settings to which they are related, have difficulties finding support from the contemporary innovation policy commission*. Thus, even if it is hard to imagine a company whose development efforts are not dependent on research of any kind – just try to imagine all research that indirectly is embedded into any company's IT solution and into the people working with it – this type of 'hidden' economic use of research does not matter when applying for policy support. If a company cannot present any direct link to newly developed research results and cannot account for any rapid economic effects within the borders of the applying company in terms of increased investments or employment, contemporary research and innovation policy will be of restricted help.

## What Is Missing?

It is interesting to note that at the same time as increasing number of governmentally produced documents were presented, stressing that academic and other public research is an underutilised, direct source of innovation, process-oriented researchers engaged in studies of innovation and industrial renewal continued to witness about another pattern. The common message brought forwards by these researchers, representing disciplines as economic history, business studies, history of technology, history of science, sociology and anthropology however *does not* seem to have made any larger effect on contemporary policy. In short, this is that technologies development, innovation and industrial renewal is created in interaction among specific companies and/or organisations and that these interactions are not delimited to any geographical borders, neither to certain technologies (See, e.g. Rosenberg 1982,

[9] In two articles that are classic among researchers but seem to be forgotten in policy, 'The Science of Muddling Through' (1959) and 'Still Muddling, Not yet through' (1979), Charles Lindblom emphasised that realising policy is about endurance or taking many small incremental steps over a long period of time.

1994; Latour 1996; Håkansson 1987; Basalla 1988; Fridlund 1999; Sturgeon 2000; Grandin et al. 2004; Nowotny et al. 2005; Waluszewski and Håkansson 2007; Hoholm 2009; Ingemansson 2010).

A main observation is that the most important direct source of industrial renewal and innovation is established business relationships. This does not mean that research is an unimportant source of knowledge – but it is in general indirect, mediated through people, which makes the main contributions from academic research to business 'largely indirect and roundabout' (Pavitt 2004, p. 120). This means that the relationships among academic research results and the commercial utilisation of these mainly is an affair which stretches over time and space in ways which makes it hidden for others than those direct involved. Thus, that anything new has proved to be useful or even successful in an academic research setting is no guarantee whatsoever that it should be direct commercially useful in industry. In the latter setting, the commercial usefulness of something new is determined by what benefits it can create on all the organisational and technological investments already made, whether or not it is considered as breakthrough science (Waluszewski and Håkansson 2007). As Ingemansson (2010, p. 173) illustrates the different logics of academia and business:

> […] scientific and economic significance are not two sides of the same coin – they are not even values within the same currency.

Furthermore, empirical-based research on business renewal and innovation addresses a specific objection to the contemporary innovation policy commission's great trust in the markets' ability to transform direct nonbusiness research results to innovations which solve both societal and industry problems. Given an interdependent, network-like business landscape, material and immaterial investments in place will affect if and how anything new will be embedded in the business landscape – regardless of what economic or societal effects it is assumed to have when considered in itself. Thus, insights which some decades ago was common knowledge seems to have faded away in contemporary innovation policy; that technological and industrial development occurs in long-term interaction, and that strong, long-term oriented actors on the supplier and user side have a crucial role in mobilising support and direction of this process where the heavy costs appears long before economic benefits (Håkansson et al. 2009; Lundin et al. 2010; Grandin et al. 2004).

What these empirical-based research experiences further underlines is that governmental actors often has been involved in creation of support and direction of interactive innovation processes, for example, in terms of purchaser of civil or military technology. Both in the USA and in Europe, specific user-supplier interfaces developed in order to be beneficial for both industry and society emerged through a heavy state engagement – more or less visible or hidden in the background (Hughes 1994; Fridlund 1999, Sörlin 2004; Weinberger and Trischler 2005; Malerba 2002; Håkansson 1987; Håkansson et al. 2009; Lundin et al. 2010). However, in the interpretation made in the 1990s policy doctrine, the role of the state and governmental actors has, as Högselius (2010, p. 271) puts it, changed from being a 'competent buyer' to become much more 'indirect, abstract and nebulous' with activities as

creating a 'good business climate' in the forefront. A heavy reliance on the market has emerged: 'With the good conditions in place, the free market is then expected to do the rest…' (Högselius 2010, p. 271).

## *Innovation Takes Place in Relation to Specific Others*

What type of business landscape is then any actor who has the attempt to support innovation facing? Although companies always have dealt with renewal issues in interaction with others, across company, technological and spatial borders, (Gudeman 2001), this pattern was reinforced during the last decades. Through specialisation and outsourcing, it is not rare that the cost for a contemporary end product to 70, 80 or 90 % stems from suppliers and sub-suppliers. This in turn means behind any new or renewed end product or service, there is a shared development responsibility which stretches over several tiers of related suppliers and sub-suppliers (Piore and Sabel 1984; Gulati 1998; van de Ven et al. 1999; Gudeman 2001; Håkansson et al. 2009).

In the contemporary business landscape, any attempt to create innovation and industrial renewal is to approach specific transnational network structures. It is to face that the benefit of a potential innovation is dependent on how it can be utilised by direct and indirect affected actors on a supplying and using side (Ford et al. 2003; Håkansson et al. 2009). Coping with innovation and industrial renewal means that a number of measures are undertaken in close interaction with specific counterparts on the supplier and user side – across spatial borders. And it means facing imprints on both the human and material resources involved that earlier interactions have created over time – in a way that will affect the content and direction of any attempt to create change, the space dimension included[10] (Håkansson 1982; Piore and Sabel 1984; Rosenberg 1982, 1994; Gudeman 2001; van de Ven et al. 1999; Ford et al. 2003; Baraldi et al. 2006; Håkansson et al. 2009).

What does then this empirical-based picture mean for attempts to support innovation? Firstly, is says that the business landscape is not neutral and that no potential innovation will meet a frictionless market, but an intricate pattern of investments in

[10] In traditional market thinking the market is assumed to be characterised by independency. This is due to that economic resources exchanged are considered as homogeneous. This means that the only necessary information the actors on the market need is the price of the resources. The problem of translating 'knowledge' to a homogeneity assumption has been solved with the assumption that the generation of knowledge is something that takes place *outside the economic world*, to be automatically absorbed by the economic actors when manifested in new economic resources (Wilk 1996). However, as soon as the development and use of resources is treated as an integral part of the business world, the homogeneity assumption has to be replaced by a heterogeneity assumption; that is, the value of resources is created in combinations and is unknowable in advance. The business landscape becomes characterised of interdependencies, which companies through interaction are assumed to try to benefit from (Penrose 1959; Ståhl and Waluszewski 2007).

place, stretching across company and national borders. This might sound both pessimistic and deterministic, but the empirical-based picture also witnesses about business landscape under constant development. This means that established paths can always give rise to new crossroads – as long as the new gets embedded into some change processes and gets direct interfaces with at least some existing resources on a supplier and user side. This also implies that the only general means to create change in an interdependent business landscape is interaction. For anyone that wants to support the embedding of something new in a large-scale commercial supply and use, it is necessary to get involved with directly or indirectly affected counterparts on the supplying and using sides (Håkansson and Waluszewski 2007).

## *Coping with the Different Economic Logic of 'Use', 'Supply' and 'Development'*

If anything new never meets a claimless demand, but patterns of existing investments related and adapted on a day-to-day basis among specific companies and organisations, across many different types of community borders, then within what types of settings does the new have to get a 'life'? That is, what types of interdependencies does anyone who wants to support innovation have to be aware about? Based on their different kinds of economic logics, at least three types of related empirical settings can be outlined, where anything new must be embedded if it will result in a large and widespread commercial supply and use. This means that there are both opportunities and drawbacks in three different settings that have to be tackled in order for an innovation journey to succeed (Håkansson and Waluszewski 2007).

### The Need for Benefits in a User Setting

If anything new ever will become a successful innovation, that is, contribute to 'black figures' for those engaged in its supply and development (and not end up as a short-term 'bubble', i.e. a firm investing, employing, purchasing, producing and delivering only as long as it has access to venture capital that can carry its costs), the end product has to be valuable within a commercial using setting, that is, an environment consisting of using companies, organisations and/or consumers (Håkansson and Waluszewski 2007).

In a user setting, a dominating economic question is how to utilise established products and product systems as efficiently as possible. Thus, for anything new to become an innovation, it has to, directly or indirectly, be embedded into a commercial product and/or service that has widespread use. This means that the new needs to get interfaces to a large number of already existing products and services in a user setting. Hence, existing investments in products and services are crucial for any potential innovation's ability to succeed. This can explain why the embedding in a

user setting is the 'Achilles heel' of the innovation journey; only a few of all new products and services survive this process (Waluszewski and Håkansson 2007; Tidd et al. 1997; von Hippel 2007; van de Ven et al. 1999).

Thus, one of the most critical parts of the innovation process is very hard to reach from the supplier side. A number of users must find it economically beneficial to engage in the creation of user applications. This might include an identification of what adaptations of related product systems already in use are necessary in order to embed the new solution, as well as a mobilisation of the suppliers and users behind them. Hence, for anything new to gain widespread use, interfaces between the new and a number of existing investments, in a supplier and a user network, have to be created. The more others than those directly related to the use of the new can take advantage of it, the larger the possibility that it will reach widespread use and become an innovation. Consequently, whether any new product, service or process will ever reach substantial use is largely determined by whether it will clash with or create new benefits to established material and immaterial investments in the user setting and by how much economic and political support can be mobilised (Håkansson and Waluszewski 2007; Bijker 1987; Gudeman 2001; Yates 2009).

### The Need for Benefits in a Supplying Setting

The difficult step from a potential to a realised innovation is not only dependent on what benefits the new can contribute in a using setting but also in a supplying setting. Below we will take a closer look at what challenges the scaling up and embedding of something in a supplier setting implies (Håkansson and Waluszewski 2007).

In a supplier setting, a dominating economic question is how to utilise established facility systems (i.e. investments in place responsible for production, logistics, distribution, marketing, services, etc.) as efficiently as possible. For any new solution to be industrialised, that is, to be embedded into a number of related companies responsible for all types of human and physical resources necessary for taking it into a regular supply, it has to be beneficial for the main part of these existing investments. Thus, when something new is going to be embedded into a supplying network, it has to be 'locked' in terms of a new product, process and/or service. As discussed above, in the contemporary highly specialised business landscape, the trial-and-error-like process of locking a new solution into a product, process and/or service, and embed it into a supplying network, will never be an affair of one single company, but an issue carried out among numbers of related companies. Much of the end product will be supplied by others, not just the launching company, and how the end product will be locked will largely be defined by what others can supply, given that the new also has to add to their existing investments. What costs and benefits this can create will consequently have a great impact on whether a new solution will ever be locked in terms of a commercial product taken up into a large-scale supply (Gadde and Håkansson 2001; Ford 2001).

Hence, a critical question for those who struggle with getting a new solution embedded into a network responsible for its large-scale production and supply is

what adaptations are required by others, and furthermore, how much support for these investments can be mobilised. The more existing investments can be utilised without larger adaptations, the higher the efficiency. Consequently, whether any new product, service or process will ever be embedded into a large-scale production is largely determined by whether it will clash with or create new benefits for existing related investments.

### Developing Settings Characterized by Search for New Functions

Regardless of how great a success something new seems, in an academic or business developing setting, it is not until it has been embedded into networks responsible for its large-scale supply and use that it becomes an innovation. And regardless of the type of *developing setting* within which a new solution emerges, this will create imprints on the new. Earlier investments in human resources, such as knowledge, skills, routines and experiences, and in physical resources, such as equipment, tools and methods, will create imprints on the new functionality. If the developing setting is very close to established supplier and user networks, if it, for example, consists of companies' R&D units and/or industry-related research institutes, the new solution will probably emerge in close relation to human and physical investments made in these settings, as well as in relation to problems and opportunities of the supplier and user networks. If the developing setting has only vague connections to future commercial supplier and user networks, if, for example, it consists of academic research milieux, the new solution will carry fewer imprints of earlier investments in supplier and user settings. However, there will always be some kind of influence from business, for example, in terms of a company's supply of research equipment and methods (Håkansson and Waluszewski 2007; Galison 1997).

When anything new is going to be embedded into commercial supply and use, it is never a solution in itself that creates benefits, but what effects it can create in combination with current human and physical investments. This means that uniqueness from a short-term economic perspective most often is a drawback. The more a new solution differs from related investments, the more difficult it is to combine, that is, the more difficult to find ways to create economic benefits. Even if a new solution can be regarded as an excellent scientific contribution in the academic setting where it was developed, and even if it seems to correspond to a specific demand, there is no guarantee that it will be possible to embed in commercial supplier and user networks where it has to interface with a number of investments (Håkansson and Waluszewski 2007; Hoholm 2009; Ingemansson 2010).

## *A Limiting Innovation Policy*

One important consequence of a business landscape with the above-described characteristics is that no potential innovation, regardless if developed in a business setting or transferred from an academic knowledge producing setting, ever meet a claimless

demand. Any attempt to create change will always have wanted or unwanted side effects for a number of direct and indirect counterparts on the supplier and user side. The effects will be distributed among related companies and their technological and organisational solutions, that is, among directly and indirectly related interfaces, over time and space. Thus, these largely indirect effects can both support and kill an innovation journey, depending on what it will add to the others that it affects. This means that effects from public innovation support can 'gravitate' from – but also to – companies and places. Furthermore, it means that potential innovations can be transformed into solutions of quite different characteristics and effects than thought of initially (Håkansson et al. 2009).

From a national policy perspective, such an innovation pattern is not necessarily a problem. If the long and 'muddling through'-like process, where investments in development respectively investments in the embedding of new solutions in a large-scale supplying and producing setting are made within the same nation, and if the end product is met by the emergence of widespread use, this will certainly be beneficial for the community that made policy investments to support these processes. Instead, the great problem appears when the main public-funded investments in are made within the borders of one nation, and the main economic and social benefits appear outside these borders.

Hence, if we accept that the business landscape is characterised by interdependencies, that is, that it has network-like characteristics which stretches across national borders, and that the outcome of any research and technological development process, in order to contribute to innovation, has to find a 'life' in three related networks that are characterised by different economic logics, the contemporary governmental requirement on direct measureable economic and societal benefits within the borders of the investing community appears limiting. If the network characteristics of the business landscape are simplified away, neither innovation hindrances nor opportunities will be taken into consideration. Thus, given that a main characteristic of the business landscape is interdependencies stretching across company and spatial borders, there is a need for rethinking the innovation policy commission. In the next section, a suggestion for a reformulation is presented.

## Rethinking Innovation Policy

Is an innovation policy commission a 'mission impossible', given a transnationally interdependent or network-like business landscape? Can public-funded policy project be designed in ways that is beneficial for company *and* societal renewal – and not only for actors engaged in 'betting' on research? If we take seriously the governmental ambition to reach national economic and social benefits through innovation policy, as well as the characteristics of an interdependent business landscape, then the agenda for how to reach this needs to be reframed.

Instead of starting out from the assumption that direct transfer of research results to business is a smooth way to boost innovation processes with economic and social benefits within the borders of the of the nation that made the policy investments, the

problems need to be reformulated. As underlined above, if the business landscape is network-like, then it is not neutral, but directs economic activities in a way which favour the main part of existing investments. Thus, if the business landscape has network-like characteristics, the governmental policy cannot rely on that, knowledge transfer will result in the innovations and industrial development needed to solve certain identified economic, societal and environmental problems. Two critical questions are instead how to:

1. Utilise the efficiency and innovativeness of networks forces
2. Create counter forces against the non-democratic and economically conservative forces of a transnational business networks

Thus, given that the business landscape is characterised by transnational interdependencies, a relevant starting point for the first question would be to ask (a) how governmental policy can act in order to support the renewal of resources available within the nation in a way that makes them into the policy-investing nations' contribution to specific transnational innovation forces and transnational supplier and user networks. Along with this reformulation goes the second question, the requirement on governmental policy commissioners to consider (b) what types of transnational innovation forces, involving what supplier and user networks, that policy investment should relate to – as support or hindrance. Should any opportunity for companies to deliver important contributions to transnational supplier and/or user networks be supported? Or should only projects be supported that are acceptable for environmental, political, and/or democratic reasons? Thus, given a network-like business landscape, a key question for policy actions can be formulated:

> What public policy measures are needed to renew resources available within the investing nation if the ambition is to make them to significant, stable contributions to transnational supplier and/or user networks?

With such a point of departure, policy in practice should be allowed to expand the perspective, from direct effects assumed to be created by a focal company and/or project to network effects that are likely to occur within and outside the policy-investing nation.

However, if governmental policy has the ambition to renew and relate resources available within national borders to transnational supplier and/or user networks, an analytical framework is needed that is based on the assumption of an interdependent business landscape, which allows an analysis of indirect effects, and especially of 'place opportunities'. For smaller nations in particular, a critical question is how to get not only the main cost but also benefits to appear within their national borders. Given a network-like business landscape, there is a great risk that benefits may 'gravitate' to other locations than intended, that is, that outcomes of smaller countries' research and technological development investments become ad hoc input to transnational supplier and user networks. Thus, a relevant governmental policy question concerns *how to make the outcome of public funding supported projects to become a particular place's stable contribution to transnational supplier and/or user networks*.

The basic demand on such an analytical framework is that it can provide the policy practitioners with the ability to investigate the direct interfaces, and the main indirect interfaces, on the supplier as well as on the user side, which the project is thought to affect or needs to create. What main developers, what main suppliers and what main users – their relationships included – are thought to be affected by the project? What does this mean for the space dimension? In the next section, we will discuss how such an analysis can be made and how space-related opportunities can be identified.

## *Opportunities to Renew National Developing, Supplying and Using Networks*

The analysis below is based on the ARA model (Håkansson and Johanson 1992; Håkansson and Snehota 1995; Håkansson et al. 2009), which makes it possible to analyse the content and effects of the three important 'network layers': activity links, resource ties and actor bonds, and the distinction of three 'economic logics' which anything new has to be embedded in order to become an innovation (Håkansson and Waluszewski 2007).

The basic foundation of the ARA model is the assumption that interdependencies are dealt with through business relationships. The content and effect of these business relationships are analysed in terms of actor bonds, resource ties and activity links – which are assumed to have consequences that go beyond the specific relationship in which they arise. Thus, the model builds on the assumption that each of these three layers are interconnected and each affects and is affected by the constellation of resources, pattern of activities and web of actors in the wider network (Håkansson et al. 2009). Activity links may limit or facilitate resource adaptations over time and space, and resource ties may limit or favour the possibility of activity coordination over time and space, and actor bonds may open up the possibility of developing activity links and resource ties over time and space. This implies that through the ARA model, it is possible to take account of both direct and indirect interdependencies in the business landscape. Furthermore, the model makes it possible to investigate these different layers separately or in different combinations. It can, for example, be utilised in order to investigate if some main resource ties, stretching across certain nonbusiness and/or business organisations and over certain places, also are dealt with through equivalent actor bonds (Håkansson et al. 2009).

In the discussion of opportunities for policy to affect the resources ties, activities links and actor bonds, the model is used as following:

1. *Innovative forces* are reflected through an analysis of how *resources* are developed and combined within and across companies, within and across national borders.
2. *Efficiency forces* are reflected through analysis of how *activities* are performed and linked within and across companies, within and across national borders.

3. *Balancing of efficiency and innovation forces* is reflected through analysis of how actors are related and how actor bonds are developed within and across companies, within and across national borders.

Below we will take a closer look at how the model can be used to increase the awareness of what opportunities policy can work with given a network-like business landscape.

## *Opportunities to Renew Resources, Activities and Actors*

A first question to outline is what *resources* that are involved in and/or affected by a policy-supported project and what could be added? Here, it is important to consider both what combinations of human and physical resources are already involved in the project, and what could be added. For example, are the resources that are involved in the policy-supported project representing mainly a nonbusiness developing setting, or are there also other resources, *representing a national supplying respectively using setting* involved in the renewal work? What resources need to be involved, renewed or developed?

A second question concerns what *activities* that are already involved in and/or affected by the policy-supported project and what could be added? Are the activities involved in the renewal work representing mainly an academic developing setting, or are other activities, *representing a national supplying and using setting also involved*? What activities need to be involved, renewed or developed?

A third question concerns what *actors* that are already involved in and/or affected by the project and what could be added? Are the actors utilised in the RTD work representing mainly an academic developing setting or are actors *representing a national supplying and using setting also utilised in the renewal work*? What actors need to be mobilised in the renewal work?

A deeper analysis of resources, activities and actors, in a developing, supplying *and* using setting, can outline weaknesses and opportunities for policy practitioners to influence the content and direction of a policy-supported project. Through such analysis (which never can be complete but more should be regarded as an 'awareness map'), an understanding of what resources, activities and actors are involved, need to be involved and need to be created in the renewal work can be outlined. Furthermore, such analysis will also provide a view of what role national resources will have in this process. Thus, hand in hand with the analysis of strengths and weaknesses of the policy-supported project, goes the outlining of opportunities for policy practitioners to act. The analysis of renewal opportunities can also be presented as in the following matrix, based on Håkansson and Waluszewski (2007) (Table 5.1).

The same data concerning renewal opportunities can also be presented as in a second matrix, which highlights the links among 'national' networks, that is, resources, activities and actors available within the national borders and transnational networks (Table 5.2).

**Table 5.1** Nine related but different 'interface logics' that can contribute to 'diagnostics' of forces that shape and direct the outcome of policy-supported renewal projects

| | Using setting | Supplying setting | Developing setting |
|---|---|---|---|
| Resource combinations (*innovation forces*) | *Renewal opportunities in relation to* product systems | *Renewal opportunities in relation to* facility systems | *Renewal opportunities in relation to* idea systems |
| Activity links (*efficiency forces*) | *Renewal opportunities in relation to* user networks | *Renewal opportunities in relation to* supplying networks | *Renewal opportunities in relation to* R&D networks |
| Actor bonds (*mobilising forces*) | *Renewal opportunities in relation to* user actor bonds | *Renewal opportunities in relation to* supplier actor bonds | *Renewal opportunities in relation to* R&D actor bonds |

**Table 5.2** Links among 'national' and 'transnational' networks

| | 'National' networks | Links between 'national' and 'transnational' networks | 'Transnational' networks |
|---|---|---|---|
| Innovation forces | Resource combinations | *National-transnational* Resource combinations | Resource combinations |
| Efficiency forces | Activity links | *National-transnational* Activity link | Activity links |
| Balancing forces | Actor bonds | *National-transnational* Actor bonds | Actor bonds |

A basic awareness concerning each 'interface logic' can be utilised to create an understanding of:

1. The idea that the policy support rest on and how far they have materialised, including at what places that are involved.
2. The supplying network that is necessary for taking the materialised idea to a large-scale production and supply, including at what places it is likely that this will appear.
3. The user network that is necessary for reaching the using volumes required for 'black figures' in the supplying setting, including at what places they are likely to emerge.

Thus, the analysis can provide at least a basic awareness about three related but, in terms of both technological, economic and spatial logic rather different networks, in which anything new has to survive to become a successful innovation.

The final question for the policy to consider is what projects are going to be supported, and how. Is it the application concerning projects that appear to have a good chance of being embedded in a using, producing and developing network, which to a large extent already exists within certain spatial borders, going to be prioritised? Or is it the application concerning projects that appear to meet severe difficulties in

one, two or all of these settings, but are important for a democratic, environmental or other societal reason and are considered as beneficial, that will be prioritised? And if it is the latter type of processes that is prioritised, where a long-term support is necessary for supplying and using networks to emerge, is the required policy involvement compatible with the contemporary EU legislation?

Regardless of the answer of the latter question, if the business landscape is network-like, with interdependencies stretching across national borders, then there is a need for a governmental innovation policy that takes the network forces into consideration.

## Conclusion: The Need for an Innovation Policy that Addresses Network Forces, Which Have both Light and Dark Sides

If the business landscape had *not* had network-like characteristics, but had been close the how it is sketched in the market model, then the contemporary innovation policy principles could have worked. The basic policy commission to reduce all hindrances for keeping the *market vivid* and relying on the market mechanism to force companies to identify their competitors, analyse their characteristics and behaviour, and in the fight for a 'competitive advantage' in relation to others on the market, absorb new knowledge and technology, would have been relevant (Marglin 2008; Håkansson et al. 2009). Furthermore, if any interdependencies had mainly occurred among the knowledge producing setting and the business setting on a group level, then ideas developed among institutional economics[11] which, as a complement to the market model have added the assumption that the market has difficult to absorb certain types of knowledge, would be a relevant additional framework.

However, the main message of this chapter has been that if policy practitioners and the empirically based business researchers are right, that is, if the business landscape is network-like, with interdependencies stretching across direct and indirect related companies and organisations and across national borders, then it will never be neutral. Instead, the business landscape is characterised by network forces which can support innovation and industrial renewal – but in a direction which is beneficial for the main part of investments in place (Utterback and Abernathy 1975; van de Ven et al. 1999; von Hippel 2007; Håkansson and Waluszewski 2007).

This means that from a society point of view, network forces have both light and dark sides. The light side is that already made material and immaterial investments, related across time and space, will concentrate innovation forces. Furthermore, the interaction processes concerning material and immaterial investments in place is also a significant source of renewal. The dark side is that the already made material

[11] Some of the institutional economics-inspired approaches that provide interpretations of how transfer of 'innovation sticky knowledge' from a nonbusiness setting to a market can be organised have been mentioned above, that is National Innovation Systems, Triple Helix and Cluster.

and immaterial investments, related across time and space, will hinder innovation processes which threaten larger parts of these. Thus, given a network-like business landscape there is a need for a governmental innovation policy that takes both the light and dark sides of network forces into consideration. Below, this chapter will be concluded with a discussion of what requirement of governmental innovation policy a network-like business landscape addresses.

The light sides of networks which can be utilised by innovation policy are, as mentioned above, that the benefits of innovations are efficiently spread among companies and organisations that directly or indirectly are involved in renewal work. Governmental funded support for renewal work concerning, for example, a large-scale supply and use of a new product and/or service, would not only be beneficial for a particular supplier and user, but for a number of related companies and organisations on the supplier and the user side – within and across national borders.

However, along with the light side also comes the dark side of a network-like business landscape, which has at least three facets that need to be addressed by governmental innovation policy. A first dark side is that a network-like business landscape influences the direction of the innovation journey in an unequal way. Existing investments, including how they are related, are on one hand powerful in terms of giving the innovation journey a certain direction. But this also means that the innovation journey is far from fair or neutral; it is path dependent in that new crossroads are influenced by existing material and immaterial investments. Thus, the innovation journey is economically conservative in that it protects the main part of existing investments. This implies that support for innovation processes with the ambition to reach specific governmental goals, for example, concerning the environment, but which challenges a great part of investments in place, needs to be carefully considered (David 1985; Håkansson and Waluszewski 2002).

A second dark side that policy has to cope with is that a network-like business landscape not only spreads the benefits of innovations but also draws back in an efficient but unequal way. This aspect is often forgotten, but becomes visible as soon as an end product faces a crisis of any kind. When, for example, a successful innovation in terms of a new type of loan in the financial setting over time results in a crisis for some large financial actors, the disadvantages are effectively and unequally spread among both directly and indirectly related companies and organisations, across national borders. Thus, a network-like business landscape, where the resources of one company/organisation are embedded into other companies/organisations, does not stabilise the effects of different kinds of drawbacks, but rather increases their effect (Håkansson et al. 2009).

A third dark side that has to be addressed is that a network-like business landscape is unequal in terms of who has influence over the innovation journey. Networks are non-transparent. Networks have no intrinsic fairness. Networks do not operate in a common interest, and they do not provide the same opportunities to all those related to it, whether they are companies, organisations or individuals. This implies that a network-like business landscape is unequal in terms of who has influence over the innovation journey and, consequently, over how costs and benefits are shared (Waluszewski 2006; Hasselberg and Peterson 2006).

Hence, the final conclusion of this paper is straightforward: if the business landscape is network-like, there is certainly a need for governmental policy to intervene. If networks are not neutral, but direct the innovation journey in relation to existing investments, governmental innovation policy cannot rely on creating a transfer of certain kinds of knowledge to 'the market' and trust that this will result in the innovations needed for the identified economic, societal and environmental problems. Governmental innovation policy has to act as a counterforce against the non-transparent, nondemocratic and economically conservative forces of a transnational network-like business landscape.

Besides acting as a counterforce against the dark sides of networks, there are also a number of network opportunities that governmental innovation policy can help policy practitioners to support and utilise. However, if policy practitioners are going to be able to utilise network opportunities in developing, supplying and using networks, stretching across national borders, their governmental commissioners have to fulfil two main requirements: First, the policy involvement has to have *endurance*. The policy practitioners must be allowed to identify and engage in transnational network processes over time. Second, the policy involvement must be allowed to be *spatially dispersed*. The policy practitioners must be allowed to identify and engage in transnational network processes over space, that is, over national borders.

Thus, the policy practitioners must be supplied with a governmental commission which allows them (a) to analyse and utilise the innovativeness of transnational network forces and (b) to counteract against the economic conservatism of transnational business networks. Both of these two requirements are challenging to a governmental innovation policy commission that is based on an overdeveloped trust in the ability to reach rapid and direct measurable effects within narrow geographical borders – through adapting academic research towards in beforehand assumed needs of a limited group of economic actors.

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# Chapter 6
# The Foundations of Knowledge According to the Knowledge Foundation

**Mats Hyvönen**

## Introduction

It is common for politicians, university leaders and other decision-makers to claim that universities are, or should be, engines of innovation and economic growth. An equally common claim is that universities, in order to really fuel the economy, should cooperate more closely with business. Links between academic researchers and enterprises are thus being encouraged intensely from all sides. At the EU level, for example, one of the main areas of activity in the strategic framework "Education and Training 2020" is the strengthening of the so-called knowledge triangle, in which the promotion of "partnership and cooperation with business as a core activity of higher education institutions" is a key element (European Commission 2011). While EU activities will have implications on the national level, they have not replaced national interests. In Sweden, as well as in other European countries, the integration of research, education and innovation is considered a powerful driver of national economic growth. The basic assumption is that symbiotic relations between universities and industry will lead to successful innovations, which, in turn, will increase the nation's competitiveness in the global economy.

The tendency to equate academic research with innovation and, in the next step, innovation with economic growth recurs on all political levels. However, as both Waluszewski and Widmalm point out in their respective chapters, this kind of thinking tends to ignore all the complexity entailed in the processes of both innovation and research. Hence, in this instrumental view, research results transferred into a commercial context will, more or less automatically, benefit both individual companies and Sweden as a nation. The connection between academic research, innovations and

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economic growth is far more complex than politicians are willing (or able) to admit. It is not an established fact that research funding specifically aimed at economic growth really achieves what it purports to (Benner 2005). In her chapter, Waluszewski also stresses that in order to be of any value to individual companies (i.e. to respond to concrete and, in advance, identifiable solutions to problems), researchers would need to adapt to the technical and organisational solutions as well as the specific customer/supplier structures of each individual company. Thus, there is a risk that academic researchers in intimate cooperation with individual companies will have to assume the role of an R&D unit. And even if they were to be transformed to fill that function, it would not guarantee better results for the companies, since radically innovative solutions may well come from completely unexpected quarters. Further, assuming that intimate cooperation of this kind were to lead to concrete solutions in some individual cases, one might wonder why we need a publicly funded institution called a university to provide this service. There is of course an answer to this question, namely, that agreements at the EU level prohibit support of domestic companies as unfair trade practice. By covertly supporting domestic industry by funnelling it through funding for higher education and research, member countries can get around this difficulty. But that is not the topic of this chapter. Rather, my concern in what follows is rather the consequences for the university as traditionally understood when it takes on this role.

With universities facing pressure to find new sources of revenue, responding to the request for integration with business may appear to university managements as a means to kill two birds with one stone. By cooperating closely with the industry, they can increase the revenues at the same time as they can show the value of their research in terms of promoting economic development. The risk is that the increased focus on achieving economic and political objectives will undermine the role of universities as an institution *differentiated* from politics and markets. The combination of financial needs and the universities' willingness to respond to political goals may have far-reaching consequences on the core activities of teaching and research.

A number of scholars have criticised the ongoing transformation of the relations between universities and society as well as the excessive use of economic criteria to steer core activities. Slaughter and Rhoades (2004a, b) coin the term "academic capitalism" to describe "a key feature of higher education in the United States". Academic capitalism is a regime ("systematic revision and creation of policies") that entails "colleges and universities engaging in market and market-like behaviours" (2004b, p. 37). The problem, Slaughter and Rhoades argue, is that higher education institutions are "seeking to generate revenue from their core educational, research and service functions". Hence academic faculty and professionals should engage more deeply in shaping and controlling both academic work and the relationship between the institution and the marketplace. Slaughter and Rhoades also speak to the need to reaffirm the university's character as a public service. A similar criticism is formulated by Radder (2010) in his critique of the "commodification of academic research", where all kinds of scientific activities and their results are predominantly interpreted and assessed on the basis of economic criteria. Neither Slaughter and Rhoades nor Radder criticises *cooperation* between universities and business but rather the *integration* of the university with commerce.

This chapter presents a short case study of the Knowledge Foundation (*Stiftelsen för kunskaps-och kompetensutveckling*) and its mandate to transform Sweden's "new universities" (established after the higher education reform of 1977) into motors of regional development. The Knowledge Foundation describes itself as a special financier of research conducted at the new universities. The Foundation's focus is on "innovative" research, the key strategy of which is what they call "co-production" between universities and business. The mission is to "strengthen Sweden's competitiveness and ability to create value". I will use The Knowledge Foundation's investments in, and propaganda for, the integration of the new universities and business to illustrate and problematise, by way of a concrete example, the tendencies to which I refer above.

## The Knowledge Foundation

In 1977, the higher education system of Sweden was extensively reformed. Nearly all postsecondary education was incorporated into one system, and eventually, 18 new institutions of higher education were established around the nation. (On the current trend towards mass universities, see Bennich's chapter in this volume.) As in many other European countries, higher education in Sweden underwent massive expansion during the last few decades and particularly in the 1990s. The new regional colleges and universities have played an important role in this expansion by increasing accessibility. The driving force behind the expansion of the 1990s was largely ideological and tied to the endeavour to improve conditions and increase and enhance the options available for Swedish society as a whole (Askling and Foss Lindblad 2007). Educational policy today, by contrast, is focused more narrowly on techniques for fitting higher education and academic research more concretely and more directly into policy and plans for economic development. In this context, the Knowledge Foundation fills a vital function.

In 1992, when the Swedish wage-earners' funds[1] were discontinued, the nonsocialist government transferred most of the capital, about 1.3 billion euro,[2] to nine non-governmental foundations under private law.[3] In a short period of time, fresh

[1] The wage-earners' funds (1984–1992) were labour-managed investment funds financed through a portion of the profits from Swedish companies.

[2] All figures have been converted from SEK to euro at the exchange rates of current at the time.

[3] The Swedish Foundation for Strategic Research (SSF), the Foundation for Strategic Environmental Research (MISTRA), the Foundation for Baltic and East European Studies (*Östersjöstiftelsen*), the Swedish Foundation for International Cooperation in Research and Higher Education (STINT), the Foundation for the International Institute for Industrial Environmental Economics at Lund University (*Stiftelsen för Internationella institutet för industriell miljöekonomi vid Lunds universitet*), the Knowledge Foundation (KK-stiftelsen), the Vårdal Foundation (*Vårdalstiftelsen*), the Foundation for the Culture of the Future (*Stiftelsen framtidens kultur*) and the Innovation Center Foundation (*Stiftelsen Innovationscentrum*).

capital was injected into research at the same time as the government renounced its influence over the funds and the future priorities of the foundations (Landberg 2000). The foundations all did, however, have one overarching purpose: they were given the task of renewing and revitalising Swedish research with an eye towards improving the nation's position as a knowledge society in a global economy. A recurring argument for close cooperation between industry and institutions of higher education is thus the need for "cutting-edge research", "innovations", "sustainable development", etc. (See Waluszewski's and Eklund's chapters in this book.) Sweden is represented in these arguments as an innovation and production collective in which everybody has to pull together so that Sweden does not lag behind. In this ideological vision of a successful nation, different institutions and agencies are coordinated as parts of a coherent and meaningful entity (Widmalm 2008). In this vision, research contributes to this national effort by developing and engaging in innovative projects with clear value for industry and commerce. In the light of the economic crisis, advocates for integration often utilise the rhetoric of "the only way". In a debate article, the deputy vice chancellor of Mälardalen University (one of the new regional colleges in Sweden) states: "In times of crisis, when small and medium-sized businesses in our region are struggling to survive, everybody has to pull together. Close cooperation between institutions of higher education, industry and the public sector is the right and only way to go" (Axelsson 2009).[4]

It is not a coincidence that a representative for the management at Mälardalen University argues for close cooperation between colleges and universities and industry and the public sector. Since 2008, Mälardalen University is one of the higher education institutions participating in the Knowledge Foundation's most ambitious initiative to date: "Knowledge Foundation Research Centres" (KF Research Centres). Over the next 10 years, and with almost 155 million euro, the Knowledge Foundation will support higher education institutions in their efforts to "profile themselves and build strong environments for research and the development of skills through co-production with the business community and the regional governments" (The Knowledge Foundation (KF) 2009). The aim of the initiative is for profiling and co-production to "permeate the research activities of the seat of learning" which will in turn create favourable conditions for an "effective and relevant use of the university's recourses" (KF 2010b). The idea is that the KF Research Centres will eventually become an integrated part of research and higher education in Sweden.

The Knowledge Foundation was established in 1994 with a fresh capital of almost 400 million euro. The funds have increased substantially since then through successful investments in stocks (in 2003, for instance, the capital was about 520 million euro despite the fact that the foundation had invested about 530 million euro in 1,500 projects). The foundation describes itself as a special financier of research conducted at the "new universities" (the 18 universities established after the 1977 higher education reform) with the mission of supporting and strengthening "Sweden's competitiveness and ability to create value" (KF 2008b). These new universities and colleges are the key to "take Sweden out of the crisis", since the research at these universities

[4] The English translations are my own.

"to a high degree mirrors the needs of the regional business communities" (Sandström 2009a; KF 2010a). The Knowledge Foundation supports research provided that the industry invests matching funds and actively participates in the projects. At the beginning, the foundation's initiatives and investments were aimed at individual researchers, research groups and those responsible for educational programmes at the universities. In 2007, however, the foundation decided to "take a more comprehensive approach in order to coordinate the initiatives and create sustainability" (Håkansson and Myhström 2008). The KF Research Centres' programme, which was launched in the beginning of 2008, aims directly at the management of the new universities instead of individual researchers or research groups. The aim of this strategy is to speed up profiling and co-production at the new universities.

The management of the new universities are both ready and willing to make the necessary changes. According to the Knowledge Foundation's magazine (*KK-bladet*),[5] the vice chancellors are "enthusiastic" and "optimistic", which is confirmed by the large number of universities participating in the KC programme: 17 of 18 new universities have participated actively in the initial phase of the programme and formulated policy statements (Håkansson 2008). The then chief executive officer Madeleine Cæsar wrote: "our meetings with the vice chancellors testify to the strong bonds between the vice chancellors and the representatives of the business community" (Cæsar 2008). There are, however, obstacles on the road towards profiled co-producing universities, both on a political and on an academic level: "The current academic culture and the public funding system hold few incentives for renewal and profiling of the universities" (Håkansson and Myhström 2008). The vice chancellors and the management lack the power and the means to develop and profile the universities by themselves. They are squeezed between the government on the one hand and the researchers on the other: "The management at the new universities need support, squeezed as they are between the traditional academic collegial structure with strong researchers and research groups, on the one hand, and the traditionally demanding government authorities, on the other" (Håkansson and Myhström 2008).

In the light of this assertion, the Knowledge Foundation's overarching aim is clear: to steer the development of the new universities in collaboration with university management, in what they call "a dialogue between equal parties". Consequently, the KF Research Centres' programme is described as "unique" and "revolutionary", since it "runs contrary to how research financiers have been working up to now" (KF 2008a). The aim of the Knowledge Foundation is to be "ground-breaking" and a "driver of structural change", which is reflected in the ambition to bring about thoroughgoing changes at the new universities (Håkansson and Myhström 2008). The director of the KF Research Centres' programme is explicit about what is expected of the college in order to qualify:

> To start the journey towards profiling and co-production in a KF Research Centre is such a thoroughgoing change that the managements and the boards of the universities must be on board. The college must have its compass directed towards co-production and profiling. (Håkansson and Myhström 2008)

[5] The magazine had a circulation of 10,000 copies and was published four times a year. The magazine has been discontinued, and the last issue was published in December 2009.

According to the Knowledge Foundation, the conditions for establishing KF Research Centres are good. The new universities are described, from the business community's point of view, as flexible and as having a "natural focus on the needs of the regional business community" (Cæsar et al. 2008). Accordingly, the KF Research Centres' programme is guided by the business community's view regarding the usefulness of the new universities. However, to make good conditions better, the culture at the universities must change in order for the cooperation with the business community to reach the optimal level, that is, to become "an integrated successful working method" (Cæsar et al. 2008). This also applies to educational programmes, which need to be attuned to the business communities' needs. Hence, teachers and students, as well as researchers, need to cooperate with the business community to a greater extent.

The business communities' point of view (as described by the Knowledge Foundation) is also the perspective from which decisions regarding what research should be conducted should be made. The foundation does not see it as a problem that research is controlled. According to the chief executive, Madelene Sandström, the criticism against "need-driven" research rests on a misunderstanding of what it is that should be controlled: "As a researcher, you should not be controlled in *how* you solve a problem, but only in the problem that you solve" (Andersson 2009). In Sandström's opinion, the researcher's task is to solve problems, not to formulate them. Furthermore, the quality of research results is not something that should be determined by the scientific community alone. Hence, in the KF Research Centre programme, quality is gauged from the point of view of the "users" in the business community (Håkansson and Kretz 2008). When the Knowledge Foundation commented upon the quality criteria proposed by a parliamentary committee for the distribution of government funding, they expressed their view as follows:

> Our experiences show that the quality criteria proposed by the parliamentary committee are too narrow. They will [not be] quality enhancing. Broadened quality criteria, where all interested parties' needs define the quality criteria, should govern the distribution of government research funding (Håkansson and Kretz 2008).

The strategies to make research at the new universities more "relevant" and of the "right quality" means letting external interests guide the formulation of research problems and determine the quality of that research. Thus, the Knowledge Foundation lays the most crucial aspects of research in the hands of laymen. The point of academic research is that it represents expertise. Its legitimacy rests upon the fact that scholars and scientists are experts within their respective disciplines. Its legitimacy also rests upon scholars and scientists being independent of economic, political and religious interests. This does not, of course, mean that academic research is completely separated from the surrounding society, but it is important to *differentiate* between the internal and external relevance of research problems. Problems entirely of internal relevance are perfectly adequate as the basis for research projects. This does not apply to problems entirely of external relevance, since these

are less likely to contribute to theory development within the discipline. By equating internal and external relevance, the Knowledge Foundation ignores a very important aspect of academic research, that is, that research should always in some way constitute a contribution to the development of the discipline.

The thoroughgoing changes of the new universities advocated by the Knowledge Foundation are justified by arguments to the effect that Sweden is in dire need of more entrepreneurs and new businesses. Existing Swedish businesses also need to be developed in order to be successful in the global race for knowledge. "Sweden produces two percent of the world's knowledge. To take a part of the remaining 98%, we have to be an attractive international affiliate with excellent research environments", the former chief executive Madeleine Cæsar claimed in one article (Cæsar 2007). "Of crucial importance", she wrote in another, "is our ability to rethink the forms of cooperation between academy, community and business community" as well as "leadership and the ability to co-produce" (Cæsar et al. 2008). A prerequisite for this "rethinking", it seems, is to reduce research to a service facility for the regional business community.

## The Foundation's Key Strategy: Co-production

The purpose of co-production is to increase the value of knowledge and competence in and through projects. The quality of "knowledge production" will reach new heights when "different perspectives participate", as the thesis was formulated in an article about co-production in the Knowledge Foundation magazine (Heldmark 2009). Research results will attain "increased relevance" through co-production, which is described as "continuous processes" wherein external stakeholders actively participate in formulating starting points, research questions and research problems. Co-production is not simply a model that applies to certain kinds of projects, but is rather the desired modus operandi at the new universities. Co-production is a win-win relation, beneficial to both the business community and the academy, since "research carried out in co-operation between universities and the business community strengthens Swedish competitiveness and develops the academy" (Sandström 2011). The Knowledge Foundation claims that research groups that cooperate with the industry and the service sector "are often the scientifically most successful" (Cæsar et al. 2008):

> The businesses need the universities in order to venture long-term research cooperation that, in turn, leads to new products, services, businesses and intelligence. The universities need the business community in order to venture long-term, strong research environments. This cooperation generates valuable and relevant applied research. […] Everyone can take a step in the right direction. We take ours (Sandström 2009b).

Although no evidence is offered in support of the sweeping formulations about the causality between co-production and scientific success, the Knowledge Foundation is confident that they know what the "right direction" is.

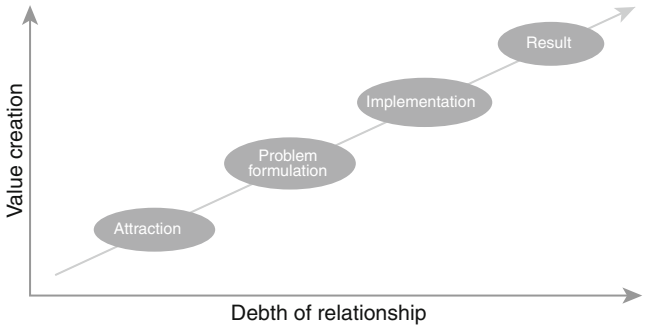


**Fig. 6.1** Co-production is a continuous process

The Knowledge Foundation's model for co-production consists of four "phases" in a process where "value creation and relations stride hand in hand" (Heldmark 2009).

Figure 6.1 describes a linear correlation between the "depth of relationship" and "value creation". The ideal progress of co-production starts with the "attraction phase" and moves through the "problem formulation phase" (also called the "opportunity formulation phase") and the "implementation phase" to reach completion in the "result phase".[6]

The attraction phase is the gateway to "cross-boundary meetings between the academy, the business community and the public sector" (Heldmark 2009). The attraction phase is not really a phase, since the search for partners should be an ongoing activity: "wise co-producers have their tentacles out to find potential partners" (Heldmark 2009). In the problem formulation phase, it is important to consider the different stakeholders' different needs and goals: "the colleges might wish to produce a great many publications, while a company might be interested in producing a new product" (Heldmark 2009). It is emphasised that all players should participate in the formulation of the research questions and in the development of new knowledge. "Experience tells us that the closer the co-production, the better the results" (Heldmark 2009). "Close" means, among other things, to share premises or to incorporate. In connection with the result phase, the foundation stresses that "encounters between different worlds of knowledge is really the greatest path to success" (Heldmark 2009).

Despite the formulations that "different perspectives", "different stakeholders" and different "worlds of knowledge" meet and cooperate in co-production, the main purpose remains: to solve problems for companies. Hence, if research is to be of any value, it must first and foremost be attuned to the needs of business. Research in its own right seems to have little or no value. In fact, co-production is described more or less as a prerequisite of successful research.

[6] The figure is used by the Knowledge Foundation in order to illustrate the desired progress of co-production. It has been published repeatedly on the Knowledge Foundation's website, in the Knowledge Foundation Magazine and in annual reports.

## An Ideological Project

Most people, both within and outside the academy, take for granted that scientific research and higher education should benefit the society at large in some way. The problem is that the terms "research", "society" and "benefit" are rather broad and can mean different things in different contexts. The Knowledge Foundation's vision of profiled and co-producing universities assumes a very narrow sense of what research is or could be. In this definition, researchers are highly skilled troubleshooters and problem solvers who, in cooperation with the business community, generate useful and "relevant" knowledge. The research problems should be formulated outside of the universities so that, according to the Knowledge Foundation, expensive and scarce resources are utilised to solve the "right" problems (i.e. the problems of regional businesses). Further, research is synonymous with "knowledge production", which needs to be coordinated within the frameworks of the Knowledge Foundation in order to function as efficiently as possible. The meaning of profiling is to delimit the functions of each participating institution, under the motto that "everyone can't do everything". Rather, the regional universities should complement each other. With the nation as its geographical setting, the new regional colleges and universities should contribute with different parts to the whole, as in a jigsaw puzzle.

The Knowledge Foundation acknowledges to possible senses to the term "research": either research is motivated by specific needs and conducted in cooperation with the industry or it is world-leading basic research. In accordance with an idea of academic division of labour on the national level, it is the former kind of research that should be carried out at the new universities. Demand-driven research must be given priority since "Nobel Prizes alone will not take Sweden out of the crisis", as the chief executive of the foundation, Madelene Sandström, put it in the caption to one of her debate articles (Sandström 2009a). The "Nobel Prize argument" reduces research and its public benefits to an either-or issue: either researchers devote themselves to world-leading basic research or they make themselves available for short-term, controlled research in cooperation with the industry. In fact, most of us fall somewhere in the middle, but the foundation does not recognise any such bell curve in science.

In this line of reasoning, the raison d'être of the regional universities is defined entirely by their willingness and ability to co-produce and to contribute to the development of regional businesses. This narrow understanding excludes every other conceivable purpose. By equating research at the new colleges with controlled research, funding can be transferred from teaching and research to corporate development. Moreover, social responsibility, which was one of the reasons for establishing the colleges in the first place, can be construed as economic growth.

This division between "Nobel Prize research" and need-driven research is also used to criticise the government, which is thought to favour the former. The Knowledge Foundation has on several occasions described itself as an actor in dispute with government and state policy. In a debate article published in 20 regional

newspapers throughout the country, the foundation's chief executive, Madelene Sandström, demands a research and innovation policy that recognises and supports "knowledge based economic development" (Sandström 2009a). The background for this criticism is the government's one-sided funding of "traditional university research in Sweden". Again, two different kinds of research are envisaged: "traditional university research" at the old universities and "growth-generating research" at the new colleges. One-sided backing of traditional university research is the wrong way to go since "the nation's new universities make vital contributions to the competitiveness of Swedish industry". The new colleges and universities are "launch pads" of entrepreneurship as well as of the "renewal of production and development of services in existing companies, not only regionally but also on a world market". The future growth potential of Sweden is to be found at the new colleges:

> Here, Maud Olofsson [former minister for Enterprise and Energy], is the future growth potential: where knowledge is available and made useful in society and in industry. The Knowledge Foundation's opinion is that cooperation is the key to take Sweden out of the crisis and therefore puts its research funding into these universities. (Sandström 2009a)

The opposition between the government and the Knowledge Foundation should be understood primarily as a rhetorical strategy, since there are in fact no essential differences between the government's research policies and the Knowledge Foundation's view on how research and higher education institutions should contribute to society. They both focus on innovation and growth-generating research. But the rhetorical trope of portraying itself as an outsider is a way of profiling the Knowledge Foundation as the sole protector and saviour of the regional colleges, making the foundation their voice and spokesman. However, successful this profile may be, it constitutes yet another expression of the foundation's limited conception of what research and higher education is and the possible ways it could contribute to the surrounding society and is far from representative of the diversity that actually exists at the regional colleges. The rhetorical boundary between "Nobel Prize research" and demand-driven research, as well as between the foundation and the government, is a way to further differentiate between the "old" and the "new" universities. In this way, the Knowledge Foundation's rhetoric detaches the new universities from traditional and established academic norms and values, which now are said to only apply to the old universities and their "Nobel Prize-aspiring research".

In the rhetoric of the Knowledge Foundation's, widely divergent issues become commensurable in relation to the all-encompassing vision of growth. In a way, this is an ideal state of affairs, since the Knowledge Foundation has found a seemingly "objective" basis for assessment. What seems to be incommensurable can be made commensurable in relation to the vision of growth. Hence, for the sake of growth, it is better to invest in development of commercial products and services, than in, for example, historical or philosophical research and teaching. The Knowledge Foundation's ambition to transform the colleges will have palpable consequences for the humanities and the social sciences there. The Knowledge Foundation's ideology of economic growth constricts the idea of research as well as of society such that there is little place for the human or the social.

By "ideology", I mean quite literally the logic of the idea of innovation and growth. In comparison with the complex reality it takes itself to be explaining, the logic is very simple and straightforward: commercialised research will lead to successful innovations. Innovations are good because they promote economic growth. Economic growth, in turn, secures welfare and general prosperity. Everybody wants that. Hence, everybody must work for greater economic growth. For university teachers and researchers, the obvious and productive contribution consists in devoting themselves to "innovative" research and teaching. The assumption that controlled research actually leads to more or better innovations is never problematised. The basic assumption in this logic must also be questioned: is there an unambiguous, causal relation between innovations and national growth? Can it be demonstrated that controlled research promotes innovations and that innovations promote economic growth?

Such a coherent and all-encompassing image of society can only be conjured up through the simplifying logic of an ideology. Widely different institutions, academic disciplines and traditions can be made compared and evaluated against this model as the gold standard. The narrow perspective of the growth ideology marginalises, diminishes or renders invisible whatever does not fit in. And there is quite a lot that does not fit into the Knowledge Foundation's conception of the world. For example, the academic quality and value of work being done at the regional universities is quite irrelevant, according to the ideological premise, if it's the "wrong" kind of research.

When an overarching vision or a profile is formulated for the college, the next logical step is to organise it as a coherent entity. Such reorganising of the universities means a shift from a traditional academic organisation with collegial influence over curricula and research towards a line organisation in which every section is assessed in relation to a "core" or "core values". In this way, management can "take control" over research and teaching. A vision or a profile enables assessment of incommensurable disciplines which can be used, among other things, to marginalise inconvenient scholars and staff. At the "corporate" university, traditional academic structures, values and concepts are usurped by the principles and practices of corporate management.

Except for the right to award degrees at doctoral level, the Swedish Higher Education Act makes no distinction between different institutions of higher education. There are, nonetheless, significant differences between the "old" universities and the newer ones. While the former receive the majority of public grants, the latter must increasingly rely on external grants from financing agencies, foundations, local authorities, county councils and private companies. Like the Knowledge Foundation, many of these funders tend to make far-reaching demands on what research should be prioritised and how it should be conducted. These funders often specify desired public benefits, cooperation with the business community and/or demand-driven research in their selection process. Further, these funders become influential over internal matters such as organisation, priorities and direction. In a situation where many of the new colleges suffer from strained budgets, these conditions have an even greater influence on the new universities. The new universities prioritise demand-driven research and cooperation with the business community in

order to solve short-term funding problems. The lack of alternative sources of funding for free research brings about an impossible situation for the faculty: because of their professionally motivated reluctance to be steered in their research or teaching by partisan or economic interests, they are regarded as a financial liability by the university's management. If, on the other hand, they conduct research that radically deviates from the discipline's national and international traditions, they will distance themselves from the scientific community. In the first case, the scholars risk personal financial bankruptcy; in the other, they risk professional bankruptcy.

## Universities (Not) in the Interests of the Public

In the conclusions from the conference "The Knowledge Triangle Shaping the Future Europe", arranged (as a part of the Swedish presidency of the EU) by the Swedish Ministry of Education and Research and the Swedish National Agency for Higher Education, it is specifically asserted that the "strengthening of the autonomy of higher education institutions is necessary to allow them to develop their missions and different profiles" (Swedish National Agency for Higher Education 2010). Here, the concept of "autonomy" does not refer to the idea of autonomous universities or to the traditional principles of academic freedom. In this context, "autonomy" should rather be understood as the freedom of the university management to formulate mission statements and decide for themselves how to govern the university in such a way as to best realise the political visions of both national and European policymakers. "Autonomy", as used here, hastens the rush towards profiling. With the ideological support of policymakers on all political levels and with financial support from influential, ideologically driven research funders such as the Knowledge Foundation, university management can choose to invest in certain "innovative" and "entrepreneurial" areas and departments while starving others, most particularly, those which do not fit in, or contribute to, the university's profile. This will lead to a situation where, as Radder puts it: "Research that is deemed to be economically useless or is unable to attract wealthy sponsors will have a hard time finding appropriate funding" (Jaschik 2010).

As Widmalm (2008) has pointed out, the most important question for the future might be if academic research also henceforth will serve the legitimate needs for knowledge in *many different groups* in society. The principle should be that science is a common resource that can be used for many purposes, including challenging dominant political and economic interests. Widmalm (2008) concludes that this principle may be undermined when public interest is equated with economic interest and when the norms of market economy invade the academy. The investments on, and propaganda for, far-reaching integration of universities and business – exemplified in this chapter through the Knowledge Foundation – are worrisome since it may well lead to a situation where the regional universities in Sweden, so intent on serving the interests of the businesses community, fail or forget to serve the public.

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# Chapter 7
# Science Policy in a Socially Embedded Economy

**Magnus Eklund**

What happens to science policy when neoclassical economics loses its dominant grip over the economic policy debate? To take on this question, one needs to consider differences in policy implications between traditional economics and its main alternative, the idea of a socially embedded economy. For at least a century, economists have developed a specific way of analysing social reality, separating them from most other social sciences. Since the late nineteenth century, with inspiration from the contemporary natural sciences, in particular physics, they have sought to impose a rigorous methodological paradigm on the study of economic phenomena. Deductively departing from assumptions of maximising and perfectly rational actors that possess perfect information as well as perfect cognitive abilities, economists could construct mathematically elaborate models for how the economy *would* work – *if* economic actors really were rational in that sense. Of course, neoclassical economists admit that real-life actors do not conform to this stylised image of rationality, but they find simplification and abstraction to be acceptable steps in order to analytically isolate the essential causal relationships in the economy (see, e.g. Friedman 1953).

This emphasis on the design of counterfactual and ideal-typical models among economists has distanced them from actual empirical occurrences of economic action and thus also from other social sciences that may be significant to understanding the economy. Business economists, economic historians, sociologists, anthropologists, economic geographers and political scientists cannot help but take on the economy as an important part of the reality they study, but their more empirically oriented

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research results are not easy to integrate with a focus on deductive modelling. As a consequence, not much communication takes place between neoclassical economists and other social sciences.[1]

The economic sphere that emerges from the deductive methodological paradigm is to a large degree abstract and separated from complex issues like culture, institutions, historical legacies and sociological dynamics. For the formulation of economic policy, this has some interesting consequences. As the stylised abstract economy is viewed by neoclassical economists as a self-regulating system gravitating towards equilibrium, if it is left alone, the general policy prescription is that the government should abstain from interfering. But if the government wants to conduct economic policy, there are a limited number of levers to pull on: the manipulation of the government budget through fiscal policy, the setting of interest rates and exchange rates and the adjustment of monetary supply. Neoclassical economic thinking can offer little legitimacy for the government to venture outside this narrow definition of the economic sphere when it formulates public policy.

Although the idea of an abstract economic sphere that is distinct from its social surroundings maintains a strong position in academic departments and among policymakers around the world, it has not gone unchallenged. In 1944, Karl Polanyi argued in *The Great Transformation* that the separation between the social and the economic was a fiction that had emerged in the historically specific period of nineteenth-century industrialisation, a fiction that it would be impossible to sustain in the long run. Land, labour and capital were not the freely mobile commodities that economic theory expected them to be, but deeply embedded in social relations. The project of severing those social relationships and making the world conform to theory risked destroying workers and capitalists alike, creating powerful forces intent on re-embedding the economy in its social context (Polanyi 2001 [1944]).

Polanyi was undoubtedly a source of inspiration when sociologists in the 1980s stopped leaving the economic sphere alone and employed their sociological toolbox to understand the social relations that underpinned economic phenomena, launching the research programme of economic sociology (see Granovetter 1985; Smelser and Swedberg 1994). At roughly the same time, some heterodox economists began exploring the possibility of changing the foundations of economic theory and make it increasingly incorporate the social and institutional aspects of reality. Richard Nelson and Sidney Winter (1982) wanted to analyse economic development as analogous with biological evolution, focusing on how firms developed different routines and faced selection mechanisms. Their aim was to move economics closer to the empirical world and to facilitate cooperation with other social sciences. Douglass

[1] On the emergence of neoclassical economics and its separation from other social sciences, see Hodgson (2001). Of course, this image of economics is partly a caricature. Some economists have interested themselves in problems of bounded rationality (Simon 1955), institutions (North 1990), path dependence (David 1985; Arthur 1994) and stylised versions of technological change (Romer 1990). While this has increased complexity in the assumptions underlying some of the constructed models, economists still remain wedded to abstract deductive thinking more than other social sciences.

North (1990) made an influential effort to include institutions in economic analysis that awarded him a Nobel Memorial Prize in Economic Science.

In short, from the late 1970s and onwards, a group of scholars questioned the distinction between economic and social spheres, arguing that they were both deeply embedded in each other. Economic analysis had to take the social and institutional into account, even if it meant increasing complexity and making advanced modelling more difficult. Being an economic historian, I have a lot of sympathy for the idea of a socially embedded economy. This chapter, though, will rather discuss the often-unanticipated effect that this change of view has on policy. As we saw, traditional economic theory prescribed a quite limited field for government intervention. However, in a socially embedded economy, the whole social world is opened up for potential policy manipulation. Proponents of social embeddedness have so far mainly fought against neoclassical economics. They have paid little attention to the possibility that their increased influence in the debate could be used to legitimise policy intervention in new areas, a development they do not necessarily find desirable.

The Marxist sociologist Bob Jessop (2002, 2008) touches on this expansion of the policy sphere in his analysis of different modes of capitalist regulation and accumulation. According to him, a transition is occurring from a Keynesian welfare national state (KWNS), based on Fordist mass production and mass consumption, to a Schumpeterian competition state, emerging as a response to the crisis of the Fordist production system. This new form of state is in general more globalised, deregulated and focused on facilitating competitiveness, entrepreneurship and innovation. As a consequence, he argues that previously accepted distinctions between economic and extra-economic spheres have disintegrated and that an economic logic increasingly is colonising areas that once were considered to be residing outside the economy, such as science policy or social policy. However, this trait is only one of the many components in the type of capitalist state he discusses. While he links the whole aggregated transformation into a Schumpeterian competition state to broad changes in the mode of production and in economic discourse, the interesting process of colonisation into extra-economic spheres and its relation to economic theory still remains to be singled out for deeper inquiry.

In general, science has received relatively less attention from neoclassical economists than technology and innovation. In the few instances that science was more directly discussed, there was no inclination to support the kind of economistic colonisation that Jessop described. This is illustrated in how economists (and other social scientists) applied thought models and analogies from economics, when they tried to understand the scientific system in the 1960s. Drawing on the theory of public goods, some economists were concerned that private business would underinvest in research, leading them to support government investments in basic science (Nelson 1959; Arrow 1962). Other analysts viewed the scientific community as similar to a self-regulating market, where an invisible hand automatically coordinated scientific activities in the most efficient possible way and where government intervention would only serve as a distortion (Polanyi 1962; Tullock 1966). In sum, the neoclassical approach to science policy appeared to consist of generous funding for

the scientists, who were then left alone.[2] Later on, the economists Partha Dasgupta and Paul David attempted a more thorough analysis of the inner workings of scientific knowledge production, but they still cautioned that "[…] the social mechanisms that allocate resources within the Republic of Science are still too little understood, and remain vulnerable to destabilizing and potentially damaging experiments undertaken too casually in the pursuit of faster national economic growth or greater military security" (Dasgupta and David 1994, p. 518).

In the following, I will address the evolution of innovation thought since World War II, an area where the idea of a socially embedded economy was particularly efficient in dislodging neoclassical economics and gaining the attention of policymakers. Then I will take a look at Swedish research and innovation policy to illustrate that theoretical shifts in how the economy is perceived can be used to legitimise policy intervention outside the traditional economic sphere.

## Development of Innovation Theory

After the Second World War, statistical measures of national income greatly improved in quality (Vanoli 2005). This became a stimulus for economists to study the causes of long-term economic growth, as well as the difference in growth rates between countries. For neoclassical economists, factors of production like labour and capital determined the level of output. Increasing those inputs led to growth in production, but that growth was subjected to diminishing returns that eventually evaporated the usefulness of adding additional units. Technological change was however expected to shift the production function and overcome the diminishing returns, enabling continuous growth. Economists thus admitted that technical change was of vital importance to economic growth, but at the same time, it was residing outside their models. They could not explain how and why technological change occurred using their standard neoclassical methodology and had to accept it as given by exogenous factors. Empirical studies of the causes behind long-term growth, so-called growth accounting, showed that inputs of labour and capital could only explain a small part of the growth rates, leaving a large residual that was assumed to mainly consist of technological change (Nelson 1997).

Neoclassical economists found themselves in a peculiar situation. Economic growth was the main source of prosperity, yet the factors that resided inside their deductive models could only account for a minor part of it. Technological change, supposedly the most important factor behind growth, was such a complex phenomenon that it was virtually impossible to stylise and incorporate into economic models.[3]

[2] For a similar analysis of the relationship between neoclassical economics and science policy thinking, see Guston (2000), pp. 66–70.

[3] Endogenous growth theorists like Paul Romer and Robert Lucas would try, but without impressing more empirically oriented students of innovation. Richard Nelson (1997) argued that whatever insights those models produced, they had already been known by empirical innovation research for years. Moreover, endogenous growth theorists only selected those aspects of technological change that was possible to model, disregarding the institutional framework and the organisation of production in firms.

During the golden years of economic growth in the 1950s and 1960s, this did not appear to be a very urgent problem. However, the 1970s saw a period of low growth, high unemployment and high inflation. For the Keynesian economists that had dominated the economic policy debate during the growth years, the combination of unemployment and inflation (stagflation) had been theoretically unlikely. This contributed to delegitimising their way of perceiving the economy and opened up the stage for new and alternative viewpoints.

The field of innovation studies soon emerged as a participant in that debate. In the 1960s and 1970s, there was an increase in empirical research of innovation processes, which pointed out their chaotic and variable nature, as well as how they crucially depended on institutional and social factors. Nathan Rosenberg in particular repeatedly demonstrated the complex and interactive feedback loops between various institutions and actors as new technology was developed and diffused (see Rosenberg 1976, 1982; Kline and Rosenberg 1986). For these empirically oriented scholars, the neoclassical paradigm did not seem to have much useful to offer when they tried to understand the nuances of innovation. Instead, most of them adopted Nelson and Winter's evolutionary economics and North's institutional economics as a more suitable theoretical foundation for their project.

Starting in the 1980s, Bengt-Åke Lundvall and Christopher Freeman began using the concept of *innovation system* more or less independently of each other. Lundvall (1985) was interested in the communication between users and producers in the innovation process and how social, cultural and institutional factors could affect the quality of that communication. He expected that culturally homogeneous settings were particularly beneficial for innovation, as the important actors were likely to speak the same language and share the same cultural codes. Writing before the Japanese sluggish growth in the 1990s, Freeman (1987) dealt with the causes behind its comparative success in the 1980s. While not so good at producing radical innovations of its own, Japan excelled at receiving technology from abroad and incrementally improving it. Behind this accomplishment lays a rich history of technology import and reverse engineering, cultural similarities between production and R&D departments, a good educational system and workplace training as well as an activist government that identified and supported promising technologies.

For both Lundvall and Freeman, the innovation system was the social, cultural and institutional environment that supported the aspects of innovation they were interested in, be it user-producer communication or the successful import and improvement of existing technologies. Soon the concept aroused the interest of other social scientists and became a focusing device for a number of anthologies on innovation and policy (e.g. Lundvall 1992; Nelson 1993; Edquist 1997). Simultaneously, international organisations like the OECD and the European Commission picked up the concept and incorporated it into their policy recommendations. These organisations were less hierarchical than the World Bank or the IMF and were more likely to accept the coexistence of heterodox innovation thinking alongside neoclassical economics (Mytelka and Smith 2002). In particular, the Directorate for Science, Technology and Industry at the OECD became a haven where economic theorists critical of the neoclassical paradigm could thrive. Many of the leading innovation scholars worked at the Directorate, and Bengt-Åke Lundvall served as its deputy

director between 1992 and 1995 (Mytelka and Smith 2002; Sharif 2006). From the outside, the innovation system concept seemed to come with an OECD seal of approval, filled with legitimacy from the organisation as well as from its academic founders (Albert and Laberge 2007). Many countries adopted it in their policy rhetoric, with Finland using it as a foundation for its technology policy as early as 1990 (Miettinen 2002).

While the concept has been enormously successful in the academic and policy world, it is notoriously difficult to pin down the precise definition of an innovation system. Although it can be loosely defined as the socioeconomic environment's effect on the quality and direction of innovative activity, different analysts focus on different aspects of innovative activity, as well as on different parts of the surrounding environment.[4] Therefore, the concept should rather be viewed as a broad research programme, assembling a wide assortment of social scientists from various disciplines, all of them wanting to bring some combination of institutions, history, culture or sociological dynamics into the field of innovation studies. In that way, the concept embodies the very idea of a socially embedded economy that started to challenge neoclassical economics at roughly the same time.[5]

The success of the innovation system concept has encountered some criticism, in particular with respect to how it affects government science policy. Benoît Godin argues that "[t]he National Innovation System framework suggests that the research system's ultimate goal is innovation […]." (Godin 2009, p. 476).[6] Mathieu Albert and Suzanne Laberge (2007, p. 226) make a similar claim:

> The […] IS [innovation system] approach is essentially based on an "economistic" vision of ST [science and technology] and, broader still, an economistic worldview. The IS approach emphasizes the economic value of ST knowledge and sees business as the primary tool for increasing the prosperity of the population. ST are thus primarily regarded in an instrumental capacity, as a way of fostering economic growth through enhancing the competitiveness of business.

Some of the early proponents of the concept, many of them with a background as Marxists and with sympathies for the political left, would be disappointed by descriptions of the innovation system concept as a business-friendly "economistic" approach that treated the research system instrumentally and reduced it to facilitating innovation. In the late 1980s, the founding fathers of the concept rather saw themselves as presenting a centre-left alternative to the neo-liberalism of Margaret Thatcher and Ronald Reagan (see Sharif 2006). In particular, Bengt-Åke Lundvall

[4] This is demonstrated in the extensive variety of innovation systems, including national, regional, sectoral and technological innovation systems.

[5] It should be noted that the diversity of the research programme translated into a rather heterogeneous relationship with neoclassical economics. Some innovation system scholars with a background in economics could import many of the neoclassical assumptions, while adding the importance of institutions. Other scholars were more likely to make a radical departure from the neoclassical way of viewing the world.

[6] See also Widmalm (2008, 2009).

had for a long time warned about the dangers of transforming the academic mode of knowledge production and incorporating it into a system focused on innovation:

> If the academic mode of knowledge production is undermined and replaced by a profit-oriented mode of production, where pecuniary incentives become more important and where secrecy regarding the output becomes more frequent, the academic mode of behaviour may lose one of its principal merits – the tradition for world-wide diffusion of knowledge. […] National Systems of Innovation may temporarily become strengthened when universities become subordinated to industry. In the long run, the production and world-wide distribution of knowledge may become weakened. (Lundvall 1988, p. 364 f., see also Lundvall 1985 and Lundvall 2006)

For Lundvall, it was important to maintain a degree of autonomy that protected university knowledge production against interference, both from economic interests and from the state. A too close relationship risked damaging the credibility of research. He made a comparison with the autonomy given to central banks in order to safeguard the credibility of money (Lundvall 2006).

In later years, Lundvall expressed dissatisfaction with how the innovation system concept had developed as it travelled from the academic world to the policy world. He complained over how it had "degenerated" and how it had been "abused" and "distorted" compared to the connotations he originally intended for it (Lundvall 2006, pp. 2, 10, 14). The creators of the innovation system concept and their ideals, contrasted against later descriptions of the concept as economistic and instrumental, serve as an example of the "death of the author" in the social sciences. Especially when concepts come into use in the policy world, their creators can no longer claim exclusive ownership over them or expect to control the trajectory of their historical development.

## Legitimising Swedish Research Policy

Swedish research and innovation policy constitutes an interesting example of how the idea of a socially embedded economy, as embodied in the innovation system concept, can be used to legitimise policy intervention in areas outside the traditional economic sphere. Of course, efforts to regulate and govern the university sector predate such shifts in economic theory. For example, consider John Bernal's (1939) Marxist argument for the planning of scientific research as part of a generally planned economy. But I will show that the idea of a socially embedded economy provided a new source of legitimacy for these attempts. Also, it shifted the focus from scientific research as a solver of wider societal problems to research more narrowly defined as a factor behind innovation and economic growth.

Since the Second World War, Sweden differed from most other countries in its research policy. In order to avoid a separation between education and research, policymakers discouraged the growth of research institutes. Instead, universities were expected to act as research institutes for all societal needs. This dual role as both university and research institute was to introduce some strain in the Swedish research

system. In the 1960s and 1970s, government agencies increasingly asked universities to perform research in order to improve performance in their policy areas, such as education, spatial planning, agriculture, environmental preservation, energy or working life issues. This type of research became known as sectoral research, and it was instrumentally oriented towards solving societal problems. In the 1980s, some university researchers started to criticise the universities' increased reliance on sectoral research money, arguing that it threatened university autonomy and that sectoral research tended to be of poor scientific quality. To create a workable balance between regular university activities and externally funded sectoral research, it was argued that free basic science needed an additional boost and that university researchers rather than bureaucrats should control the funding of sectoral research. As a consequence, many government agencies funding sectoral research were instructed to implement structures similar to research councils within their organisations (see Stevrin 1978; Nybom 1997; Persson 2001).

While proponents of a research system oriented towards the solving of societal problems had been forced into defensive positions in the 1980s, they gained more influence in the 1990s. In 1994, the Social Democrat Carl Tham took over as minister of education and set out to reform the university sector and make it more receptive of societal needs. To him, universities were hierarchical and old-fashioned institutions, whose practitioners worked in a tradition that made them disregard the social implications of their research. If researchers were left to follow their own curiosity, areas of vital importance to society risked being neglected by research. The solution was to regulate the university sector and bring it firmly under "democratic" control. In the research bill he presented in September 1996, there was a general emphasis on promoting the social relevance of research. Still, the intention was to make research relevant to *all* of society, and there was no privileging of industrial needs or innovation. In fact, the word innovation was rarely mentioned in the bill (Prop. 1996/97:5, see also Benner 2001; Eklund 2007).

Attempts to strengthen public control over the university sector were met with furious opposition from some researchers. In November 1998, a government investigation considering reforms of the public research funding system largely sided with the researchers that wanted to defend their autonomy (SOU 1998:128). The report, named *Research 2000*, argued that it was impossible to predict the usefulness or relevance of research in advance. Instead, researchers should increasingly be free to follow their scientific curiosity, which in the long run would be most beneficial to societal needs. More specifically, the investigation argued that the sectoral funding of research from government agencies should be transferred to research councils controlled by academic researchers. When the report was published, Carl Tham had already resigned as minister of education, and it was uncertain if his ministry could be relied on as a partner for proponents of socially relevant research. The ministry of industry and several of the agencies sorting under it risked having large parts of their research funding transferred to research councils.

A loose coalition soon formed, consisting of the ministry of industry, the agency for industrial and technical development (Nutek) and the trade unions and industry organisations that were associated with the industrial sector. When they mobilised

to protect the future of sectoral research, they found inspiration in the innovation system concept that had become increasingly popular in the OECD. Critics of *Research 2000* introduced the concept into the Swedish research policy debate and were able to rhetorically frame the universities in a new light. Replacing the traditional notion of universities as autonomous institutions where scientists followed their curiosity wherever it led them, universities could instead be presented as components of a system whose main function was to promote innovations. If the performance of the system depended on collaboration and communication between its components, it was not advisable to encourage the kind of university autonomy that *Research 2000* had suggested. Moreover, it was argued that other countries in the OECD had transformed their research policy into an innovation policy and that Sweden risked falling behind if it did not follow their example.[7]

The introduction of the innovation system concept into Swedish policy discourse was quite successful. In January 2001, the Swedish Governmental Agency for Innovation Systems (VINNOVA) was founded, taking on large parts of the sectoral research funding (the rest was transferred to research councils, just as *Research 2000* had proposed). Thus, an organisation remained where bureaucrats rather than researchers could control the funding of research based on relevance, fittingly named after the concept that had served so well in the defence of societal influence over research funding (Benner 2001; Eklund 2007).

## Conclusion

It may seem ironical, but university autonomy was for a long time protected by the unrealistic assumptions of neoclassical economics. The construction of an abstract economic sphere that was separated from its social surroundings, coupled with the near-hegemonic position of economists in the policy debate, is to thank for this state of affairs. With a self-regulating economy (sometimes fine-tuned by government policy) presented as the only theoretically endorsed source of wealth, neoclassical economics effectively suppressed discursive linkages between elements in the extra-economic sphere and prosperity. This separation of spheres was also reinforced by the application of thought models from neoclassical economics, such as the theory of public goods and the self-regulating market, which encouraged policymakers to fund scientists and then leave them alone. However, as the idea of a socially embedded economy gains ground, these protective walls are gradually coming down. More and more social science models emerge that declare university research to be the main source behind innovation and economic development, going under various headings such as Mode 2, Triple Helix – or innovation systems.

It is not necessarily a bad thing that proponents of university autonomy increasingly will have to live without the artificial protection of neoclassical economics. First of

[7] For an example of this argumentation, see Arnold et al. (1999).

all, I think it is scientifically fruitful to incorporate the social world into economic analysis and to create a more pluralistic field, where the neoclassical approach is only one of the many legitimate ways to study the economy. An increased vulnerability to economistic thinking, which exclusively views science as a source of innovation and crowds out its other functions, may be a price worth paying for that development. Second, the case for university autonomy and the preservation of free curiosity-driven research is strong enough in itself and does not need to be safeguarded by neoclassical economics. What is needed is rather an awareness of the new situation that is emerging after the end of neoclassical dominance, a situation that is characterised by both risks and opportunities.

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# Part III
# Research and Scholarship

# Chapter 8
# Down the Slippery Slope: The Perils of the Academic Research Industry

**Li Bennich-Björkman**

Up until 1960, higher education was reserved for the talented few. Those attending universities belonged in the privileged elite, being mentored and educated also by the elite of university professors and fellows. All this changed successively as education reforms opened up universities to much larger parts of the population in the Western world of the United States and Europe (Goldin and Lawrence 1999). The mass university was born in the early 1960s, and in the decades that have followed, more and more students have been admitted to university programs, and previous nonuniversity trainings and education are now part of the higher education system (Whitley 2000, p. xvi). Today, it is not unusual in, for example, Sweden that around 50% of an age cohort is studying in universities or university colleges (Bennich-Björkman 2007). In the 1940s and 1950s, it was just a few percent.

In the just 50 years that have passed, this is indeed a tremendous change. Depending on the specific historical traditions and preconditions of the university systems throughout Europe and in the United States, the challenges of the mass university have been handled differently. Far from being coherent, institutions of higher education and research have been shown to be surprisingly divergent and continue to be so (Clark 1995). Nevertheless, what universally seems to have followed suit, as a consequence of the growth in number of doctoral exams and the increasing emphasis on knowledge as promoting national competitiveness, is a shift from "elite to mass" also within research. I argue polemically in this chapter that there has been a move into what can be called the era of the academic research industry. What used to be small scale and based mostly on individuals is today increasingly streamlined and large scale, at times embedded in large webs of collaborative networks that involve researchers who never even met in person. In parts of the European university

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systems, there is a rapidly growing tendency to centralize and control external funding processes to university managers, thus turning universities themselves into more of corporate-like entities.

Even though I am not particularly fond of this development, mainly because it destroys some of the necessary preconditions for creative work in favor of mechanization, I believe it is essential to try to understand the forces behind the reality we experience by taking a step back and, like an anthropologist, look upon the developments from the outside. Below, I will point to some indicators sustaining the argument of a growing research industry and furthermore reflect upon possible causes and consequences of that development.

## Is There Really an Academic Research Industry?

### *Growth in Numbers and Outputs*

Let me start by looking at the number of researchers globally. Most figures point to that there has been an increase; the United Nations Educational, Scientific and Cultural Organization (UNESCO) states that "R & D expenditure and the number of researchers worldwide have grown significantly between 1996 and 2007," and between 2002 and 2007, full-time equivalents of researchers has increased from 5.8 million to 7.1 million. A substantial part of this absolute increase rests on the growth of China as a research and development nation (UIS Fact Sheet 2009, p. 12). Researchers are defined broadly, as "professionals engaged in the conception or creation of new knowledge, products, processes, methods, and systems and also in the management of the projects concerned" (p. 1). It is hard to find independent figures on the numbers of researchers in the humanities and social sciences, but even so, the figures available clearly show that there is substantial growth in the number of professionals engaged in academic research overall, most likely affecting also humanities and social sciences. If we believe UNESCO, the increase in the number of researchers has been particularly substantial over the last 10–15 years.

What about the number of scientific journals? It is sometimes stated that the number of journals has exploded over the last decades. This, however, does not seem to correlate with actual developments. Even though there clearly is a growth, it follows an established pattern of an approximate doubling of the number of scientific journals every twentieth year. From 1800 until today, the annual average rates of 3.46% have persisted. The exception is the period 1945–1975 (after the Second World War), when growth rates were higher as a consequence of extensive economic growth and subsequent investments in research and development (Mabe 2003). In 2001, the number of "active, refereed academic/scholarly serials" was approximately 14,700. As far as can be concluded, natural sciences, medicine, humanities, and social science journals are all included in this count.

What Mabe finds in trying to explain this steadily continuous growth in journals is that it is basically author driven, primarily caused by the successive increase in number of researchers (shown above). "The connection between growth and the number of journal titles and growth in number of researchers is unmistakable" (Mabe 2003, p. 195). Growth could also accelerate further as a result of certain publishing strategies by researchers, for example, "recycling" of already published results, arguments, and texts, in slightly new forms and outlets, and the "breaking down" of results and research work into least publishable units (LPU). Such publication strategies, which are hard to find information about in a more systematic manner but most certainly exist if we listen to how colleges speak about their work, would then be employed to meet demands on "publish or perish." Such demands themselves become more salient as a mechanism of stratification when the number of researchers increases.

What about number of "papers," that is, articles, in journals? Analysis based on Thompson's *Science Citation Index* (SCI) indicates that there has been a rise in the production of papers, in particular with reference to the developing world (the big exception being Africa).[1] Again, unfortunately, I have not been able to find some parallel analysis concerned with the humanities and social sciences, but must rely on the assumption that the latter research fields tend to move in a similar direction.

This growing "supply" of research is more of a structurally than intentionally generated process, not necessarily welcomed or intended in the first place but nevertheless affecting the content and profession of research, pushing for a more conscious response and strategy on behalf of individual researchers and university establishments. Let me now focus on two major tendencies in particular: the pressure to increase productivity and the changing characteristics of the reward systems.

## Productivity

The academic research industry in the western world is funded by a combination of business and governmental resources with some small additions of private foundations and NGOs (see UNESCO statistics for overview). It demonstrates today some classic signs of industrialization, where emphasis on growing productivity (defined in the classic sense as more production, output, in lesser time, input) is one crucial aspect and a move from individually based activities to "corporate"-based ones (that is on the university level) another.

In every mass industry, increasing productivity is the major instrument by which individual corporations survive and prosper on the market, and productivity is the result of higher efficiency. Increasing efficiency was thus the key of early twentieth-century

[1] "What do bibliometric indicators tell us about world scientific output," *UIS bulletin on Science and Technology Statistics Issue,* No 2, September 2005.

Taylorism, the rational or "scientific management" principles developed to meet the growing demands on industrial production (Braverman 1974). A strive for efficiency in order to increase productivity is also visible, even salient, in today's growing research industry. Time and space management of the individual research workers, as for editors of scientific and scholarly journals, have become all the more in focus, and developments within the domain of information processing support the increasing productivity strive.

Is then a growth in productivity, understood as more research papers and books in shorter time, really possible? I would say yes, given that papers are allowed to be, even demanded to be, short, streamlined in their structure, and present results based on material and data that are not time-consuming to retrieve or analyze. That is also precisely the development we see within the social sciences, which I know the best.

"But I have already exceeded the 6000-word limit!" Desperate to stick to the constantly shrinking word limits of academic journals whereas at the same time trying to satisfy critical reviewers by including additional data, more sophisticated analyses and elaborated methodological notes, many researchers today struggle with incompatible demands to be both very short and all the more comprehensive. Space management is growing into a form of art in itself, putting focus on how to reduce the amount of signs by using, for example, numbers instead of letters, cutting out references, and shortening sentences.

In a similar way, presenting at an academic conference today is often primarily an exercise in time management. "You have two minutes left" signals the appointed chair with an embarrassed smile after 8 min, well aware of that this is not what someone spending 4 years on finding out why state building failed in Zimbabwe but not in Botswana longs to hear. Incompatible time management demands on providing enough original insights, substantial evidence and path-breaking conclusions while sticking to the 10 min granted so that the other six panelists and the discussant get their share are constantly present in the international events that academic conferences constitute. It might also reduce the intellectual stimulation and the possibility of dialogue into a minimum.

Nevertheless, as is the case with norms, many subject themselves to these inherent rules of academic publishing and presentation voluntarily and without complaints, feeling a sense of genuine failure when a paper is exceeding the word limit or when taking 3 min too long as a paper giver at a conference. Short is beautiful; to be lengthy is demonstrating both lack of focus and politeness.

Why has publication within the social sciences (and humanities to a certain extent) developed in such a way, and why are many researchers less and less inclined – as an audience – to read longer papers or even books? A generous interpretation is that these developments articulate a welcome awareness that "big is not beautiful" and that it is difficult and skilled to write in a concise manner. Thus, the tendency could basically reflect an improvement as a result of intra-scientific concerns. A less generous understanding instead focus on how the format (including length, style, and structure) has grown in importance because of reasons external to the content of research, such as time constraints of the readers, and a growing number of researchers aiming at getting published. There is simply no time to listen to lengthy arguments.

The question then becomes how that affects the type of problems and analytical questions researchers will take on in the first place.

The type of research problems identified is indirectly affected by the publication patterns. Instead of asking questions which demand multifaceted analyses, there is a tendency to break down questions to very small, and thus manageable, "units." The use and choice of certain types of research material is indirectly favored by the need to be concise and short. In the humanities and social sciences, mostly although not always, this is research based on statistics rather than qualitative material from archives, interviews, focus groups or content, and text analyses. Tables, figures, and formulas are less "word consuming" than lengthy text analyses (although tables certainly demand space).

However, if papers could become shorter and the research works less time-consuming, the Achilles heel of academic research work is precisely the reading, the demand for cumulativity – and of course creativity. Research builds on previous research to which it adds a piece of novel or, at least relevant, knowledge. While the writing of research papers could become more efficiently executed over time by routinization and streamlining, reading, reflecting, and digesting the previous contributions of others still take time.[2] Even if you could train yourself to read faster and pick out the core points more efficiently, there is a limit to this, and furthermore, the rapidity by which new results appear demands in reality a lot of time to keep up. In order to avoid lowering productivity by such an "absolute" time constraint, there are at least three solutions in the academic research industry of today (extensively used and often combined): specialization, technological assistance, and human assistance.

## *Specialization*

Specialization allows you as a research worker to initially invest in mastering a particular subfield and continuously add to this initial knowledge without losing track of the contributions by others. The problem is that many real-world problems demand a broad-based knowledge of more than one field and that too much specialization thus risks making you less creative, in the sense of novel. Nevertheless, as, for example, Hasselberg points out, the role of specialist within the social sciences has become more salient:

> The researcher as specialist is an interesting species. It is a person who is specialized in a number of fields that the rest of society hardly knows exist, or knows little about. The specialist often renounces claims of context and perspective. For her, the absolute limit is put up by the research front, also motivating the question asked. (Hasselberg 2009, p. 128 my translation)

[2] That is also an explanation to why consultancy firms, which work closely with similar data as, for example, social scientists, are poor in positioning their analyses in relation to previous research. That is too time-consuming and is not paid for by those who commission their work.

## *Technological Assistance*

As a response to the growth of the research industry and the increasing focus on productivity, technological (particularly software) tools of assistance have been appearing all the more frequently. In the last 10 years, information resources, notes, and reference systems, all crucial to handling the demand on cumulativity in the academic research industry, have developed rapidly. Wikipedia (Jan. 2010) lists 30 software products for reference handling: 22 of them have been launched after 2000 and four before 1990 (including one of the most successful, Thomson's EndNote). Through these reference systems, an individual researcher is able to build his or her own digital "library" of references, importing them from various databases aside from listing them manually. In searching databases for articles (and books), keywords are often used, leading to that the library often consists of a large number of references that are related to the topic, all of them however seldom read. But given the ease by which it is possible today to, in this and other ways, keep superficially updated on progress in research, the demands mentioned earlier on demonstrating comprehensibility grow. Since the publish and perish logic reduces time to read and digest what you have read in favor of writing up your own pieces, there is probably a general knowledge that references today are not (all) real but "imported":

> You don't have to run EndNote on your desktop to use EndNote Web. You can export citations to EndNote Web and download them later to EndNote on your desktop, or create bibliographies directly from EndNote Web[3] (the citation is from New York University Library).

While facilitating research workers to manage their footnotes and references, reference systems also help covering up a severe condition in the academic research industry: the growing lack of time for reading and reflecting. EndNote (and its equivalents) efficiently helps to identify and localize work in databases, articles, and books, so that on appearance, the research worker continues to fulfill the norm of cumulativity. There is just one flaw, particularly damaging for social sciences and humanities that still refer to books: for example, EndNote does not handle (without some manual fixing) page references. Hence, EndNote parentheses include author names and year of publication, usually what is needed in references in articles. But for citations, and most certainly for books, such a reference is basically useless and moreover often reveals that the book has not been read but only identified through keywords. Such reflections may seem to be minor, compared to the decisive facilitation and advantages that the new technologies bring. However, I believe we need to reflect upon what kind of "signals" technological innovations send out and the subsequent behavior they provoke. Research is not an exception.

[3] http://nyu.libguides.com.

### *Human Assistance*

Research assistants, which is a manual labor doing both the actual reading and data collection, is a third option available to the research worker in handling not only the cumulativity demand but the time pressure in general. Research assistants are costly, so such a solution depends on generous funding. Furthermore, research assistants are more easily used for mechanistic tasks that rely less on discretion, such as counting certain words or phrases in texts or encoding predecided categories of events. Tasks that rests on more of tacit knowledge, judgment, and independence, for example, in-depth and long interviews, focus group research, and archival research of a more advanced kind, are less suited for human assistance because they involve continuous decision-making and on the spot analyses.

### *Research Work as Art*

However, in relation to productivity, there are certain particularities that separate the research industry from classic industries of manual labor and place it much closer to spheres such as art, literature, and the performing arts. Productivity gains are much harder to achieve in these spheres than in classic industries. What Baumol and Bowen once pointed out as the "economic dilemma" for performing arts, that rehearsing and performing a Shakespeare play or Mozart's *Requiem* still takes about the same amount of time as it did a 100 years ago, applies also, at least to a certain extent, to academic research (Baumol and Bowen 1968, p. 374). Why is that?

Creative work that is work involving the creation or discovery of something not previously known is time-consuming and must – if it is organized in an optimal way – allow for experimentation, trial and error, and failure. By necessity, it embeds uncertainty and mistakes. Putting it differently, creative work cannot be mechanized, because there is no way to bypass the experimentation that usually produces – failure. By overemphasizing productivity (more output in less time) in research, there is therefore a substantial risk that the creative element (the trial and error) in research work is being downplayed, in favor of what can be learned and mastered: craftsmanship skills, mastering (or managing) the literature, and the conducting of "safe" experiments.

## How Does the Research Industry Affect Reward Systems?

Traditionally in academia, every individual used to work for herself, improving one's own position, through primarily respect and recognition. Hence, when we speak about a tendency in the academic research industry to increase productivity, it is still (but not entirely) on the basis of individual achievements, that is, individual researchers trying to provide more "output" in lesser time.

## *Rewarding Novelty*

What, then, is the equivalent to profit for the individual competitors in the research market? As Robert Merton once pointed out, this is a "competition" not based on material gains (in the first place at least) but on immaterial rewards generated from the group of peers: fundamental respect, scholarly recognition, and an impact on future research (Merton 1973; Mulkay and Williams 1971). Peer admiration is what the researcher wants to earn, and for that, she may have to work an entire lifetime.

What about these "immaterial" rewards generated by peers? As a consequence of research industrialization, the criteria for peer recognition and admiration are in the process of changing as well. These rewards have traditionally been tied to originality (or creativity), not productivity. That is not to deny that creativity and productivity (in the sense of publishing a lot) could, and sometimes do, go together, in that creative researchers are also productive. But the rewards are tied to contributing substantially to a research field, and the most admired contribution is the genuine novel and creative one. To push it, theoretically at least productivity in itself should not be interesting at all (although empirically it still often is, to a certain extent).

## *Rewarding Productivity and Investments*

As the academic research industry has grown, the administrative infrastructure has grown as well, while the basic "unit" in the field has started to shift from the individual researcher (or a concrete and identifiable research group) to collectives such as departments and entire universities. University administrations, funding agencies, state authorities, and international organizations are today working full time with research-related questions, not least with finding systems and methods by which to allocate resources between individual researchers and between collectivities such as departments, institutes, universities, and even national university systems. The administrative infrastructure cannot automatically base its reward systems on substantial contributions to scientific fields and originality; for such assessments, it depends on the continuous help of researchers (which is used). However, in order to enlarge its institutional autonomy and independence, the administrative infrastructure needs to develop some parallel criteria for assessments and allocations that it can use autonomously and without having to depend on the scientific community.[4] Research *productivity* lies close at hand (since it is easily assessed) and so does rewarding the capability of attracting research *investments*, that is, research funding (Whitley 2000, xviii). While traditional peer admiration rests on *research contributions and their contents*, productivity and investments have thus become alternative and

[4] For a sharp discussion on autonomy, heteronomy and judgment ("omdöme"), see Hasselberg 2009, "Om statsnyttan och andra nyttor, och om det onyttiga omdömet," pp. 55–60.

I would say rival criteria, not only more and more extensively used by the administrative infrastructure but also, and increasingly, invading the assessments by the peers themselves. In a recent assessment of a candidate up for "docentur" ("associate professor") in Sweden, the reviewer, for example, pointed out the candidate's ability to attract "research funding" as a merit in itself. This is not exceptional. Productivity and investment criteria thus invade also the perceptions of peers, at the risk of drawing attention away from contents of the contributions. The foremost instrument for measuring productivity and "impact," bibliometrics (measuring publications and citations), has grown tremendously in importance in the social sciences and also in the humanities, represented by the Social Science Citation Index (SSCI) and the Arts & Humanities Citation Index (AHCI). If, however, creativity and productivity, as indicated above, can go together, could not productivity then be a good enough proxy for creativity, one could ask?

The problem is that the growing amount of researchers and journals, in combination with the technological development that promotes the writing of more papers, has facilitated productivity to a rather high extent. Thus, today we can probably say that there are many highly productive researchers whose contributions are not particular novel or original. That is not to say that they are lacking creative potential, but the pressure for productivity (growing as a result of the number of researchers and the reward systems driven by the administrative infrastructure) discourages them from devoting enough time and enough energy into uncertain but potentially original research endeavors. As shown in a recent study on how the construction of research funding affect creativity, innovation is promoted by long-term perspectives, the possibilities of early failure and timely and intensive feedback (Azoulay et al. 2011; Agihion et al. 2005).

Traditionally, in academic research, rewards have been generated also by *internal* rewards: the joys of intellectual challenge, the immensely satisfying feelings of "flow" through deep concentration, and the thrill in novel and innovative findings and solutions.[5] This has little to do with the question of what is being rewarded in the academic research industry today, but nevertheless is of importance for understanding some of this industry's psychological effects. The growth of the academic research industry with its emphasis on growing productivity successively perverts more and more of these inner, psychological, rewards. Inner rewards have been shown to be strongly nourished by academic freedom that encourages curiosity-driven research (now heavily questioned). First and foremost, however, more output in lesser time reduces time for extensive concentration and for the trial and error processes that are an inherent part of creative work.

Hence, as partly a consequence of the administrative infrastructural strive for autonomy, productivity and investment attractiveness have become alternative, even competing, criteria for assessing merit in academia. What used to be a very strong emphasis on novelty is today rivaled by more mechanistic assessment tools. Moreover, the kind of indirect rewards that come from the thrills, passions and

[5] For the concept of "flow," see Csikszentmihalyi 1985, pp. 489–497.

excitement of discovery, challenge, and new interpretations are affected as well by the developments of the academic research industry.

## Some Final Words

> If you throw a frog into boiling water, it will quickly jump out. But if you put a frog in a pan of warm water and raise the temperature very slowly, the gradual warming will make the frog doze happily. The frog will eventually cook to death due to its failure to sense the gradual increase in water temperature. The message of the tale is that, because its environment changes so gradually, the frog is never stimulated to take bold action to save its life (Gino and Bazerman 2009, p. 717).

It is easy, tempting and sometimes unavoidable, to adapt to changes when you are embedded in the affected structures. After a while, usually rather quickly, you do not any longer notice the larger pattern that these changes are a part of. What then happens is a successive halt to thinking actively about the ideas behind a certain development and whether you really support or even like its long-term consequences. Instead, the situation has become one of trying to cope and survive (Zimbardo 2007). As part of the system, you grow accustomed to the new practices, even if they are not benefitting the organization. Adaptation then successively leads to acceptance, because rationalization sets in: it has been shown to be hard to live with the type of cognitive dissonance implying that behavior points in one direction and believes in another. Hence, persons working within a system start to believe in its governing principles and successively, without many noticing it actively, there has been a shift from one set of norms to another. The mental processes sustaining such institutional changes have become known in social psychology as the "slippery-slope" syndrome, a gradual, incremental slide into a state or a situation which once was believed to be detestable or highly disliked. In a recent experimental study, researchers showed that "when unethical behavior of others develops gradually, over time, instead of occurring abruptly, people are more likely to accept this behavior" (Gino and Bazerman 2009, p. 717).

As a consequence of the "slippery-slope" effect, academic researchers are, I believe, accepting practices and norms evolving within the research industry that actually contribute to destroying or crucially damage preconditions for original research, innovation, and discovery. The main argument in this chapter has been that there is a growing tendency to focus on productivity and efficiency that bear resemblance to early twentieth-century processes of industrialization. To write and "produce" more in less time has become a value in itself, even though rhetorically accompanied by statements such as that research needs to be "cutting edge" and of outstanding quality. But because research work is much like performing arts, the advantages of scale are simply not there. The equation of more, and *better*, research in less time is hard to achieve because of the inherent logic in creative research work: the time-consuming activities of experimentation and failure. The perils of the industrialization of academic research lie in that these insights, of the need for risk-taking and acceptance of genuine uncertainty, are buried in all the more elaborated efforts of time and

space management. And that we, as researchers, adapt and doze off, while not even noticing that the water slowly starts to boil.

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# Chapter 9
# In Defence of Discretion

**Ylva Hasselberg**

## The Professional Problem

Modern society has been characterised as organised according to three different sets of rationality linked to three different modes of interaction: market, hierarchy and networks (Powell 1991). These modes of interaction also include three different sets of decision-making. The market mode bases decisions on demand. The hierarchic mode bases decisions on rules, routines and standards, monitored by authority. The network mode is based on discretionary decision-making. Discretionary decision-making means that decisions are taken on the basis of experiential knowledge in relation to the social context in which the decision is taken. Experiential knowledge is historical in its character; it makes use of history in order to judge future. There is a measure of subjectivity in it, as it demands interpretation, i.e. use of the mental faculties of a person. Discretionary decision-making is based on qualitative judgement, which means it can never be value-free. There must always be values according to which judgement is exercised. How is a *good* playground constructed? Does it have trees and grass? Does it have a bit of nature on it? Or is it more important to have many devices to play with? That, of course, depends on how one perceives childhood, one's own experience (as a child, mother, teacher, architect) but perhaps also one's formalised knowledge of, for instance, child psychology.

Professional groups are organised according to the network mode and exercise discretionary decision-making. Normally, they base their position on the access to a particular piece of theoretical knowledge held by no other group in society. Lawyers and judges know the law. Priests know their bible. Physicians know medicine. Scientists know a scientific discipline. One does not become a member of the profession

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without acquiring both relevant knowledge and values regarding what the *standard of good work* within the particular field is. The fact that the professions base their position on factual knowledge (Leistungswissen) instead of or rather together with knowledge of how to embody a certain position (Herrschaftswissen) makes them an integrated and central ingredient in the process of modernisation. However, the process of modernisation does also include the creation of *facticity* itself. Professionalism has a troubled relation to facticity. The creation of facticity takes place within the domains of philosophy and science, including social science. Facticity rests on the assumption that facts and values/interest/subjectivity can and should be separate. Literary historian Mary Poovey (1998) demonstrates how the creation of facticity draws on numbers and quantities rather than qualities. Although the historian of science Theodore Porter (1995), Mary Poovey herself and many others, especially within the field of STS, have demonstrated the subjective quality of quantities, qualities on the superficial level have a much closer relationship with values and have thus not succeeded in establishing themselves as facts. Values are related to subjectivity which is linked to personhood and to the social context. The social context is very central. I would like the reader to reflect for a moment on the term "peer" in *peer review*. Peer review is the basis for advancement and for the evaluation of the standard of work in professional groups. Being judged by one's peers means being judged by persons belonging to the same group and the same social segment of that group. It also means that you are judged by persons who are similar to you. In Swedish, the equivalent term is "*like*". Being someone's *like* means to be of equal standing and value, but it also means being like (similar to) that somebody. Successful exercise of judgement is based on social position and shared values. This is why we can speak of the network mode of interaction as fundamental to professions. Here, discretionary decision-making evidently clashes with modernity, paradoxically at the same time being a precondition for its realisation. Professions cannot and should not restrict themselves to objectively handle sheer facts, neither when they evaluate each other nor when they work as professionals. The statement that they *can* is a great lie, but a lie that is necessary for modern society.

For a long time, the lie worked. The conflict was not exposed. Professionalism rested on an informal contract between the professions and society, represented by the state. The contract stated that the professions had the right to exercise discretion and right to impose their own professional standards (autonomy), but in return they had to subdue tendencies for self-interest to become dominating. If a doctor says a certain treatment is necessary, we should not even begin to suspect that he prescribes it because it will give him a higher fee.

The professional contract was broken in the last decades of the twentieth century. It was easy to break but has turned out harder to mend. In the Anglo-Saxon world, where professionals are to a high extent self-employed, there arose strong suspicions regarding the morals and high standards of certain professional groups, among which are the medical professions and accountants. The criticism emerged in the 1970s and has grown stronger and stronger over time. Traumas such as that involved in Enron have greatly impacted on our general trust in professions. Professionals broke it with greed and a tendency to listen more to other professionals (in-group) and less to the

rest of society (out-group), thereby establishing anti-democratic coteries, based on peerhood. Professions became an economic as well as a democratic problem. This was also reflected in social science, where professions were now perceived as an interest group acting to protect their "labour market shelter" (being shielded from competition), and not as inherently benign (Larson 1977). Note however that only a small segment of the professional world (and only in some countries) was actually criticised. However, the critique against professionalism met with other central trends, such as the evolvement of *risk society*, in Ulrich Beck's (1992) meaning of the concept. Professionals became a risk rather than a benefactor of society. Professional judgement was not transparent, not easily controlled and not easily evaluated. Also, it is not altogether predictable. The seemingly wayward character of professional judgement constitutes a risk. Limit the range of action of professionals, and we will limit the risks connected with professional judgement.

Thirty years (or more) of distrust against professional judgement have now begun to have clear consequences:

1. Professionalism is more and more conceptually framed as a matter of technical proficiency. Professionals should *know how* to do it, but they shouldn't have any intrusive ideas on how it *should* be done, and why. Professionals should not have values regarding the development of society; they should not be political, not even in the broadest sense of the word. And it seems, when the issue is studied scientifically, that they don't. The collective responsibility is not felt any more. Professionalism in the old sense of the word has given way to expertism (Brint 1994). Another way to put it is to talk of a "new professionalism" (Svensson 2006). The fact that the new professionalism lacks the central ingredient of a value-based standard of good work does not seem to get in the way of the use of the concept of professionalism (which I personally indeed think it should). This is of course a question of legitimacy. Professionalism is laden with the goodwill and legitimacy created by professional work during the last 150 years. The word is useful even though it is used to describe what the opposite of "old professionalism" is. A central problem of new professionalism is its uncertain relation to responsibility. A doctor who has, using his/her own judgement, prescribed the wrong treatment or made the wrong diagnosis is responsible to his peers and to his employers and can expect to be disciplined. A doctor who has prescribed a treatment which is *evidence-based* cannot expect to be disciplined if something goes wrong. After all, it wasn't his fault; he just followed standard procedures. It is even doubtful whether such an event will produce a statement of something going wrong. Probably, the verdict would be just an accident. However, standards and recommendations can be constructed on the basis of many types of rationality, one of which is to save money (basing decisions on a cost-benefit analysis). Or, rather, professional judgement can be formulated in a language that clouds or avoids the conflict between the economic restrictions and the interest of the patient (Johnson and Sjögren 2012). It is not necessarily in accordance with what we used to see as the fundamental value basis of professional judgement in the medical professions: to improve the health of the patient with the means that

are at hand. Some scepticism of the idea that *value-laden* professional judgement could be and should be replaced with *value-free* managerialism is in order. The conflict should rather be seen from the perspective of Pierre Bourdieu's theory of habitus expressing the doxa of an autonomous field (e.g. Bourdieu 2000): The doxa of the economic field is to make a profit while the doxa of the field of medicine is to restore and maintain health. There is no reason to believe that the doxa of the economic field is more value-free than any other doxa.

2. When professional judgement is replaced by rules, regulations, standards, management, etc., the value of and need for professional knowledge is depreciated. We do no longer need the full range of professional knowledge, or we think we do not need it because complexity and context is no longer visible. This means that expertism is challenged by another trend, which we could term de-expertisation. Expertism gives birth to its own slayer, like the god Uranus being castrated by his son Cronus. Technical proficiency can be acquired: it is a type of knowledge that is accessible through text, in opposition to silent knowledge. Standards can also be accessed through text. Combining rules, regulations and standards, all expressed in documents, with technical proficiency, makes it possible for a layman to imitate professional work and to claim to be in possession of the competence to judge the quality of it. It also, evidently, becomes possible for a layman to question the essence of professionalism: the centrality of discretion. Who needs discretion to follow a good cake recipe? The power over knowledge on the superficial level becomes distributed, so that every one becomes an expert. We can all judge the competence and performance of our doctors, lawyers and university teachers. Each is an expert on his/her own life.

## The Status of the Academic Profession

*This is how the development of higher education today should be framed: as a consequence of the professional problem.* University faculty are the last professional group to become "suspects", i.e. become the target of "good governance", but they are not least important, for the sheer fact that university faculty educate other professionals. Therefore, professionalism at the university is a prerequisite for the overall existence of professionalism. We are the ones who teach the use of professional judgement: we teach scepticism, critique, opposition and defence on scientific grounds, argumentation and the application of non-negotiable standards of good science. It may be that in the end, the only place in society where professionalism of some sort will remain is within groups that do not aspire to professional status because of lack of theoretical foundation of their knowledge, like artisans. A carpenter will be allowed to have views on what constitutes good work but not a judge or a teacher.

In higher education, critique has been directed towards academic oligarchy, entrenched in the ivory tower. The basis of the critique has been the suspicion that there are things that are hidden from view and that there is interest. Interest can be

tied to the internal relationships of the group. It is like when the police are suspected of protecting each other from the public and from discipline. The suspicion is that group loyalty is more central to the individual than loyalty to the public. The questions are the following: What are we suspected of? Where lies the foundation of interest? As a profession, economic interest has not been central to modern academics – not since the evolution of paid positions and the cease of practices of charging students of private services like tutoring. We are not (at present) self-employed and are not paid per student we examine or paper that we write. We are not entitled to use violence or have access to the system of justice to impose our values on the public. We are not responsible for people's health or lives. We do not exercise a great measure of direct power at all. In fact, autonomy (*freedom from/to*) is much more central than *power over* or *power to* to academics as a group. This autonomy is used for the purpose of creating new knowledge and for passing this knowledge on to the students in a form that includes the knowledge of how to use it as a base for professional judgement. It must be this autonomy that lies at the heart of the problem: the autonomy to phrase and solve scientific problems and the autonomy to pass this ability on to the next generation. Possibly we can discern a third type of autonomy at stake: the autonomy to speak to society of its own identity, as a part of a reflexive position taken by modern society.

The autonomy to exercise discretion and to formulate and solve a scientific problem is a necessary prerequisite to new knowledge. The public phrasing of the problem contains the statement that universities do not work with central issues and do not contribute enough to the solving of economic and democratic problems. That is why it is necessary to put more pressure on them and to diminish professional autonomy. This can only lead to less new scientific knowledge being produced eventually. Universities will return to a role they had until the event of modernisation: to educate civil servants and provide them with necessary ideological and technical schooling (see Blomqvist 1992 on the Swedish ninetieth-century university). Perhaps, this is exactly what is in reality desired by the powers that be.

This leads us to another question, which is, what is being done to address this problem of professional erring, if there is such a problem? It is my opinion that we need to keep the rhetoric around the problem separate from the measures taken against the problem. If we ask ourselves what the real question is, the perceived problem, based on an analysis of the steps taken to answer the question and solve the problem, we shall arrive at another conclusion than if we just trust the presented rhetoric regarding the problem at hand.

What is being done in the name of *efficiency* at European universities today is lowering the level of internal democracy and increasing the level of management. The initiative to formulate research issues is transferred to the field of politics and to the research administration and funding agencies. This should, according to the rhetoric, increase the control of professional managers and lower waste and wilful behaviour. The tendency, however, is not to lower the power of academic oligarchies. Presently, we are strengthening academic oligarchies. We are giving some actors in the system an unproportionate measure of power, in return for the loss of the autonomy of their colleagues. In Sweden, the development towards a corporatisation

of the state universities is going fast. The academic pawns, faculty without positions within management and PhD students, have less power than they had 30 years ago. They become more dependent, not empowered.

This is what is being done in the name of *efficiency*: deconstructing all shreds of democracy and limiting autonomy to the absolute top level. What is being done in the name of *democracy* on the other hand is abolishing discretionary decision-making in favour of prescribed research issues, prescribed outlets and prescribed values. This lowers the efficiency of both research and teaching as it is no longer possible to conduct these on the basis of scientific norms.

What remains of the academic freedom is null or at least very little. This is not a central societal problem. I admit that society can have goals that can and should overrule academic freedom. On the other hand, what remains of *efficiency* and *democracy* within the university is also null. This could be seen as a societal problem. However, if we construct the problem with the measures as a starting point, and thus deduce the problem that one tries to solve, it is rather that there is *too much* democratic potential and *too much* efficiency at the university. We here have a type of organisation where individual autonomy and emancipation exists, and decisions are made according to intellectual standards and after negotiation in which intellectual power counts more than rank. At least the norm system tells us this – reality is a different matter in all organisations. Further, we have – or used to have – an organisation with a minimum of bureaucracy which effectively rewards competence and equips individuals with professional standards according to which they then can go and do their job. This type of organisation constitutes a threat to *hierarchy* and to *market*. This is the reason it has to be abolished, not because it is undemocratic and inefficient.

## The Future of Professionalism in Academia

So we (or rather higher education policy) try to tame academic professionals by the classical means: technicalisation, standardisation, managementisation, proletarisation, marketisation, etc., all to lose discretionary decision-making, because it is the key problem. Discretionary decision-making cannot be cut loose from the issue of good science, and it cannot be detached from the internal relationships of the scientific community. In trying to lose discretion, we are turning academics into machines, except the elite which are paid good money for exercising judgement but above all for their loyalty. We are keeping the machines busy with producing papers that will not be read (but perhaps cited) and students who will be technically apt but intellectually shallow. Robbing the system of all meaning, here are the resulting problems, problems which cannot be avoided and which will sooner or later have to be addressed:

1. Discretion does not disappear. Neither does subjectivity. It just goes someplace else. Discretion can move in three directions:
   - To management within university, meaning that the right to exercise qualitative judgement is limited to people with little contact with the actual work of teaching and research

- Into technical standards (e.g. metrics), meaning that qualitative judgement is limited to the experts of the same systems
- To politicians and research funding administrators, meaning that qualitative judgement is limited to individuals who do not have the proper professional training to judge whether a problem is scientific or not

Presently discretion is more and more exercised by individuals within the higher education system who have another professional identity than that of academic faculty. This tendency is strengthened by the overall managementisation and corporatisation which increases bureaucracy so that fewer and fewer of academic faculty are prepared to accept a position within management. We are thus losing access to positions of power within our organisations, a classic feature of deprofessionalisation. Deprofessionalisation is a given way to lose talent (at least *male* talent). Deprofessionalisation usually, and I base this on solid sociological knowledge produced over more than 50 years, gives birth to feminisation, loss of status and lowering of salaries.

2. When discretion is not exercised by those who have the professional competence, the *power to create* is lost. The magic wand lies in the power to combine facts with context, power to see things from a new angle, the power to interpret and the power of analogy. All these emanate from the mental faculties of an individual. New knowledge emanates from discretion, not from rules, standards or even logic. This situation, meaning the gradual loss of discretion, threatens to bring us back to the early modern university in terms of creative capacity.
3. Meaning however, unlike discretion, can be lost. Meaning is embodied in the individuals who populate the system. When they as a collective discover that discretion is lost to them but exercised by somebody else, they will become alienated, and then they will become angry. Either the system will be abandoned by all creative talent, or there will be a revolution. The academic mob will overrun the streets of our capitals seized by frenzy. What will scientific knowledge matter then? Does it matter now, at the university? In my opinion, it hardly lies at the heart of the matter.

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# Chapter 10
# Publish and Perish: A Note on a Collapsing Academic Authorship

**Inge-Bert Täljedal**

## Introduction

For about half a century, the commonplace alliteration 'publish or perish' has been around as a somewhat witty way of capturing the predicament of academic researchers. With time the expression has turned less jocular and all the more sinister, as competition for positions and grants has hardened, in pace with the incessant rise of the flood of scientific and scholarly print.

The flood is readily illustrated by a simple search in the Thomson Reuters database Web of Science. Between the publication years 1990 (100%) and 2000 or 2010, there was a dramatic increase in the numbers of papers retrievable by, say, the following search terms in the appropriate topic or address field (%): 'diabetes or insulin' 328 (year 2000), 694 (year 2010); 'cancer' 470, 1,112; 'oxygen' 457, 678; 'Harvard', 155, 230 and 'Umea', 168, 225. Drowned by the sheer number of potentially relevant papers in any research area, the modern scientist, manager and politician alike are tempted to rely on publication metadata, rather than on a critical assessment of content, for gauging the relevance and quality of research reports. Similarly, in research environments increasingly influenced by the ethos of commercial industry, academic merits tend to depend heavily on quantitative aspects of output, *i.e.* on the sheer number of papers or books to which the researcher's name can be linked in the formal capacity of 'author'.

Traditionally, the writing of a scientific text is an intellectually and morally committing undertaking. It is in the function of author that researchers claim to have something genuinely new to add to the accumulated knowledge and cultural heritage of mankind. By going public in words, one demands recognition for the merits

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of his or her work and simultaneously accepts being the legitimate target for any justified criticism. Hence, the text should be honest in its intentions, truth-seeking and certainly not deliberately misleading.

Uninterpreted expositions of numbers, diagrams, pictures or collections of evidentiary material can rarely, if ever, constitute science. For both scientists and humanists – too often prejudicially seen as people of numbers as distinct from people of letters – adequate linguistic communication of what has cleverly been observed and thought out is an essential facet of the game. Part of the personal satisfaction and pride of successful researchers therefore hinges on their being authors.

Of course, individual writers will always differ in intellectual and moral capabilities. That trivial fact notwithstanding, conscientious authorship is a fundamental institution of scientific culture, in principle a condition for it. However, there are signs to indicate that this view of science is no longer self-evident, a phenomenon at least in part reflecting the deluge of reports and the commercial turn of academic work. In this present chapter, I express concern over the threat to intellectual standards that is represented by a growing acceptance of phenomena such as collective authorship, honorary or gift authorship, ghostwriting and commercially inspired subterfuge and deviousness. For further reviews of problems associated with authorship in modern medicine and clinical psychology, see Reichelt et al. (1998), Madiba and Dhai (2006) and Sismondo (2009).

## From Individual Responsibility to Team Writing

A few decades ago, it was common for first-rate scientists to write their own papers, sometimes in company with a close collaborator. As master over his own words and sentences, the lone author can hardly avoid letting his personality be naturally expressed, albeit in a mode disciplined by the stringencies imposed by the scientific nature of the content. For example, when the Nobel Prize laureate to be, Ragnar Granit, in 1948 opened a paper (Granit 1948) by the phrase ‘In this communication I would like to draw attention to some aspects of the micro-electrode work with the retina of the dark adapted decerebrate cat…’, there could be no doubt about his personal involvement and full responsibility for the ideas to follow. Likewise, the introductory sentence ‘Collagen is a very interesting protein’ (Pauling and Corey 1951), by Linus Pauling (at the time a Nobel laureate to be, too) and his almost equally famous collaborator, Robert B. Corey, served no other purpose than exposing the enthusiasm of the writers and establishing their acute presence in the act of communication.

By contrast, modern scientific reports typically exhibit many names positioned as authors but few signs of subjectivity in style. For example, the December 22 or 23, 2011, issues of Nature and Science contained 37 research articles, reports and letters. Their authors ranged 3–124 in number with a median value of 6. Matter-of-factness in literary style may serve the virtue of scientific stringency. Nonetheless, when a real person cannot readily be spotted as the actual writer of a text that is formally

ascribed to half-a-dozen or more 'authors', there is presumably a risk that not all of the formal authors have taken full intellectual and moral responsibility for the text. This is not to say that team writing ought to be seen as a vice *per se*. It would be unfair to suspect a group of collaborating authors of dishonesty just because they are many. On the other hand, it cannot be denied that modern team writing invites certain temptations; it would be hypocritical not to acknowledge that some researchers succumb to them, to the detriment of scientific culture. In the wake of the discovery of a case of scientific fraud, the legitimacy of multiple co-authorship was in fact seriously discussed already in 1988 at a colloquium at the National Institutes of Health, USA (Schechter et al. 1989).

When, as is nowadays usually the case, the authors' names are not listed in alphabetical order, it is generally assumed that the order employed should signify differences in the degree or kind of contribution that each collaborator has given to the common good. However, there is no foolproof rule or convention as to how the ordering should be interpreted. Although it is usually thought that the first and last positions in the list of authors are in some sense more important than the others, the precise sense is rarely obvious and neither is the significance of the order in between. If unclarities of this kind make it troublesome to proportion the merits of good papers, it may be even worse when it comes to the blames for bad ones. It is also often difficult to tell whether the presumed meaning does in fact correspond to reality. The lack of explicit, rigid and generally accepted rules may contribute to making scientists view the institution of authorship as a more flippant matter than the austerely structured content of their papers.

Demonstrating an increase in the number of authors per article in psychological journals nearly three decades ago, Sacco and Milana (1984) concluded that their observations raised important questions regarding possible changes in the process of establishing authorship. Indeed, reflecting on the demise of the lone author that is now more or less a fact, Greene (2007) asked whether we no longer care who has actually drafted a paper that is attributed to many. In other words, can modern science do without concern for genuine authorship?

## Authentic and Phony Authors

Although the practice of multiple co-authorship has come to stay and probably represents no great harm or vice in itself, it is not only associated with some unclarities but also a source of temptation to active disinformation. Within a team of people listed as authors, some may not be authentic but outright phony. The expression 'collapsing academic authorship' in the title of this chapter refers to the seemingly increasing (tacit) acceptance of the phenomenon of phony authorship, transgressing the borderline to fraud.

By phony author one could simply mean anyone who poses as the writer of a text without so being. In its strictest sense, such a definition would seem to rule out the possibility of there being more than one, or perhaps very few, authentic authors

of any paper, considering that writing comprises both the composition and the physical recording of text. In reality, things cannot be made quite that simple. It would be unreasonable to regard as phony anyone who has not had his hand on the pen or keyboard. However, deep involvement in the intellectual aspects of the writing procedure, *i.e*. in the process of composing the text, must be required for authenticity, unless the term 'author' be deprived of the very essence of its traditional meaning.

It is probably not very controversial that this criterion in typical cases excludes technical assistants from the by-line, in spite of their having played an important practical role in the investigation on which an article is based. Neither does it seem objectionable that, conversely, the criterion readily accepts many scientist apprentices as authentic authors. Although an advanced research student may not yet be capable of drafting a publishable paper entirely on her own, her understanding and intellectual participation is typically more than sufficient to justify authorship and is often of at least as great a significance as that of any co-authoring supervisor.

However, what about so-called 'gift' or 'honorary' authorships?

The potential risk that co-authorship may lead to misconduct has long been a matter of some concern. Investigating the circumstances surrounding an admitted case of scientific fraud, Stewart and Feder (1987) analysed an odd hundred reports (including 18 major articles) published by the incriminated scientist in collaboration with 47 co-workers at famous universities. Frequent lapses from acceptable publication standards were observed, including several cases of honorary authorship, *i.e*. the appearance of phony authors who had not made any adequate contribution essential to the research.

This phenomenon, which is also referred to as 'gift authorship' (Smith 1994) and not necessarily connected with any other deviance, seems to be regrettably widespread. If not openly applauded or encouraged, it does not appear to be much criticized either. It is as if many otherwise honest scientists do not consider active disinformation in the by-line to be wrong in the same sense as manipulation of scientific data or the methods description would be. That differentiation is clearly dubious if not evidently erroneous. Putting up with any deliberate disinformation is in principle in conflict with the overriding scientific norm of truth seeking, a fact that should be a sufficient argument for not condoning phony authorship. Moreover, those excusing the phenomenon of phony authorship overlook or disregard the fact that there are areas of research other than their own, notably such scholarly fields as the history, sociology or theory of science. In such areas the identity of the real author of a scientific article may very well belong to the category of research data. Perhaps less significant in principle, but nonetheless of practical importance, is, of course, that condoning phony authorship is inevitably prone to raise some suspicion about one's seriousness and trustworthiness in general. Stewart and Feder (1987) wrote:

> The reader may ask: What harm is done by honorary authorship? Indeed some of our colleagues have argued that the custom of routinely placing the name of a senior scientist, usually the head of the laboratory, on a paper – regardless of his contribution – is widely followed and does no harm. We disagree, as have others […]: honorary authorships falsify the assignment of responsibility for published research and increase the likelihood that

> inaccurate data will be published. The honorary author is in a poor position to judge the validity of the work, yet he often lends prestige that may lull other co-authors, the reviewers or the readers into uncritical and inappropriate acceptance.

This stern judgement against honorary authorships seems fully warranted. In fact, in the light of the development taking place during the decades following their report, one is inclined to think that Stewart and Feder (1987) were perhaps too lenient. They viewed honorary authorship as one of several less serious reflections of carelessness or haste, whereas arguably it more properly belongs to their class of grave misconduct including wilful deception.

## Editorial Regulations

Recurrent discussions in the past of the topic of legitimate authorship have encouraged the International Committee of Medical Journal Editors (ICMJE) to promulgate a set of rules called 'Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publications'. These Uniform Requirements, which are under constant revision, have been adopted by many great journals, among others, the leading medical periodical, the New England Journal of Medicine. In view of its prestige and wide dissemination, a journal of such status can be anticipated to exert a considerable normative influence in the biomedical scientific world.

The electronic submission of an original research report to the New England Journal of Medicine has to be accompanied by a certification that none of the paper's authors is phony. In January 2012, the wording was as follows:

> I hereby certify on behalf of all the authors that we helped write this manuscript and agree with the decisions about it. We all meet the definition of an author as stated by the International Committee of Medical Journal Editors, and we all have seen and approved the final manuscript. […]

The instructions to authors on the journal's website are somewhat more demanding in prescribing that 'each author must sign a statement attesting that he or she fulfils the authorship criteria of the Uniform Requirements'. The essence of the ICMJE requirements concerning authorship is captured in the following quotation from the organization's website (January 2012):

> Authorship credit should be based on 1) substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; 2) drafting the article or revising it critically for important intellectual content; and 3) final approval of the version to be published. Authors should meet conditions 1, 2, and 3.

It should be emphasized that the criteria explicitly demand that legitimate authors meet all *three* of the above specifications. That proviso would seem to preclude that anyone could be an author merely in virtue of taking part in the drafting or critical revision of the text. Evidently, each author should have personal contact with the actual data, at least as much as is needed to be able to analyse them. That 'analysis' here must be taken to mean scientifically adequate analysis goes without saying.

In a paper on the phenomenon of ghostwriting (Healy and Cattell 2003), the ICMJE regulations were quoted as not requiring that all three conditions be met. The regulations have also been portrayed as demanding that the three conditions be met by at least one, but not all, of several collaborating authors (Madiba and Dhai 2006). Those interpretations go back to earlier versions of the regulations, *e.g*. (International Committee of Medical Journal Editors 1985) than the ones presently valid.

Moreover, it is worthy of note that present ICMJE requirements not only define who is entitled to be included in the list of authors. They also demand that all authentic authors should be openly acknowledged as such: 'All persons designated as authors should qualify for authorship, and all those who qualify should be listed.' Thus, for example, it does not seem acceptable for a senior supervisor to abstain from appearing as a collaborating author together with his or her research student, if, which is sometimes the case, the supervisor meets all of the three ICMJE criteria for authorship.

At first glance the ICMJE requirements seem reasonable and demanding. However, on closer inspection it is obvious that the interpretation of the provisos allows a great deal of flexibility. How much is a substantial contribution and how much involvement in energy and time is necessary for a draft to be critically revised for important intellectual content? How much of the intellectual content of the paper – all of it or just a small fraction – relevant to each author's specialization?

Some insight into how the rules are implemented in practice can perhaps be gained by analysing the publication pattern of some conspicuous author. For this purpose, some time ago I picked the first name of the top original article in the then most recent issue of New England Journal of Medicine. It seemed all the more relevant choice as the by-line of that paper contained more than a dozen names, the first of them being the corresponding author (judging from the address for reprint requests), on whose shoulders the journal had placed the onus of ensuring that everyone in the by-line met the ICMJE criteria for authorship. Of course, selective probing of this kind might yield an impression that is not representative for the average article or author in New England Journal of Medicine or elsewhere. Nonetheless, it would be informative as an indicator of what could pass in a highly representative forum of the scientific medical world.

A search in the Web of Science showed that the author in question had published 47 papers in the preceding 12 months, on research comprising large patient groups as well as technically demanding laboratory methods. To participate in the writing of nearly one paper a week in accordance with the above ICMJE norms is a noteworthy achievement. Clearly, it can be done. However, it is difficult not to get struck by the possibility that the editorial requirements for authorship may in reality be less restrictive than the readers are likely to think and than they were perhaps once meant to be.

## When Both Traditional Intellectual Norms and Official Regulations Fail

A remarkable breach with the traditional norms for scientific conduct as well as with the specific ICMJE authorship regulations has been revealed in research connected with the pharmaceutical industry. In brief, to promote their products on the

market, companies may manipulate the by-lines of scientific papers reporting the effects of drugs. Papers drafted by anonymous collaborators, sometimes for-profit writing firms, are adorned with the names of illustrious academic scientists who have had only little real involvement in the research reported.

Studying the effect of suspected ghostwriting on the characteristics and impact of articles related to Pfizer's antidepressant drug sertraline, Healy and Cattell (2003) concluded that the style of authorship in industry-linked articles 'raises concerns for the scientific base of therapeutics'.

An even more hard-hitting and sensational disclosure of clearly manipulated by-lines occurred in April 2008 in the leading general medical periodical, Journal of the American Medical Association, JAMA. The once widely prescribed anti-inflammatory substance, rofecoxib, better known under one of its product names, Vioxx, had been withdrawn from the market in 2004 because of serious cardiovascular and cerebral side effects. Owing to litigations brought against the producer, Merck and Co., Inc., previously secret documents pertaining to the company's research on rofecoxib became available for scrutiny.

Analysing this material, Ross et al. (2008) discovered that Merck employees had worked either independently or in collaboration with publishing firms to prepare manuscripts and had then recruited external, academically affiliated investigators to appear as authors, frequently as the first or second name on reports of clinical trials. Merck was also found to have offered investigators honoraria between $750 and $2,500 for serving as authors of scientific reviews that had been ghostwritten on their behalf by publishing firms.

In the same number of JAMA, a signed editorial (DeAngelis and Fontanarosa 2008) took issue with this kind of devious subterfuge in the strongest possible terms, placing moral responsibility on both industry and the medical profession at large:

> The profession of medicine, in every aspect – clinical, education, and research – has been inundated with profound influence from the pharmaceutical and medical device industries. This has occurred because physicians have allowed it to happen, and it is time to stop.

And, referring to the exploitation of phony authorship:

> Individuals, particularly physicians, who allow themselves to be used in this way, especially for financial gain, manifest a behavior that is unprofessional and demeaning to the medical profession and to scientific research. [---] Drastic action is essential, and cooperation of everyone involved in medical research, medical editing, medical education, and clinical practice is required for meaningful change to occur.

In Sweden a bizarre little sequel to this sordid story took place in one of the leading daily newspapers, *Svenska Dagbladet*, where the medical journalist Inger Atterstam reported on the JAMA disclosures in two news articles. In that context she interviewed the managing director of the pharmaceutical trade organization in Sweden (Atterstam 2008). He professed being a little surprised by the stir, as shown by the following quotation from the article (author's translation):

> – Everyone involved knows how it works, he says. The companies do the job and pay for more than 90% of all drug trials. For example, the extensive analysis of data is done in the companies, and the reports are drafted by people hired by them.
>
> He thinks that all science journal editors are very well aware of these facts.

– The selected leading academic researchers do not have time for this excessive work in detail. That is self-evident, he says.

He also considers it reasonable that the star scientists get paid as, after all, they must put their mind to the material. That need not mean they are bought.

– Besides, not a single scientific journal would accept an article written by company people alone. It would be silenced.

## Concluding Remarks

Clearly, big pharma does not recognize much reason for worry over the latitude in intellectual and moral responsibility between putting one's mind to a material and being an author in the true sense of the word. It is my impression that the medical world at large does not worry much either. Despite recurrent discussions in the scientific literature for decades about the problems associated with multiple co-authorship and such decadent phenomena as honorary, gift or guest authors and ghostwriting and in spite of the ambitious guidelines of the International Committee of Medical Journal Editors, the problems seem to be increasing rather than diminishing. For one thing, the number of names posing as authors on the average paper has been steadily growing, making it increasingly difficult to tell chaff from wheat concerning the real contributions of 'authors'. The seeming complacency over these matters among medical scientists in general may in part depend on the fact that the most spectacular cases of phony authorship have been disclosed in a fairly circumscribed area of research, the clinical trials of new drugs. However, a more sinister possibility cannot be ruled out. Perhaps it is a long-standing and widespread tolerance for a certain amount of phony authorship in every corner of the medical world that has made it possible for the industry to put this kind of deviance into systematic use for the gain of economic profit. Whatever the explanation is, it is clear that the situation is, as the JAMA editorial put it, demeaning to medicine as a branch of science. Lest medicine will lose more of its prestige and credibility, concerted action must be taken to restore medical authorship as an intellectual institution. In the eyes of conscientious scientists and scholars, to publish in accordance with the degenerated norms of a damaged subculture is not success; it is in a sense to perish.

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# Part IV
# Higher Education

# Chapter 11
# Methodomania

**Michael Gustavsson**

## Introduction

> "Methodism" is ultimately a proposal for shaping the mind (Wolin 1969, p. 1064).

There has been a development in higher education in Europe towards increased academization. Even vocations that have traditionally been viewed as not requiring a college-level education are now required to develop scientifically grounded practices and theoretical underpinnings This process began in Europe in the 1970s with the integration of nursing and teacher's education programmes *inter alia* into the university (see, e.g. Lieberthal 1977; Clift 1997; Laiho 2010) but has in recent years expanded to include academic programmes for occupations such as golf management and pet-store supervisor.

In conjunction with the academization of vocational training and the introduction of new academic disciplines, we also see an increasing tendency to adapt traditional academic disciplines to professional and vocational training. Demands and expectations from stakeholders such as students, prospective employers and funding agencies contribute to an increasing instrumentalization of higher education as a whole, not merely in terms of how it is organized, but in the very practice of science and scholarship.

With the advent of mass education in the 1970s, a new set of ideas about scientific process and tools for gaging the quality of scientific training, such as performance and throughput measurements, arose. One solution to the challenges presented by mass education was the increased use of handbooks and manuals for training in method and scientific presentation techniques. Science is presented here as a

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question of how to do things according to a fixed set of rules, as the mastery of a certain set of instruments and methods. In this way, the expansion of the university and its adaptation to societal demands came to have an effect on the perception of what science and scientific thinking consists in, even within the academy. In a context where the concept of higher education and even science itself is so ambiguous as to include just about any subject matter, the public legitimacy of the university as an institution rests on its ability to offer some specific form of training that only it can provide, that is, academic training. But academic training in the examples mentioned above, for instance, can't be based on the subject matter itself (there is no scientific problem *per se* arising out of pet-store management), but on the form, that is, the techniques and methods that are taught, rather than theoretical questions belonging to the subject matter.[1] A common misapprehension is that the marketization of higher education in Europe is a product of the Bologna Process. The latter has surely intensified and legitimated the standardization trend that it expresses and enforces, but, as noted earlier, this trend began much earlier, as a seemingly necessary adaptation to the requirements of mass education.[2] At the same time, the reforms instituted in the European Higher Educational Area as a consequence of the Bologna Process, undoubtedly bolsters an instrumentalist view of higher education to the extent that quality is linked to external results such as employability rather than internal criteria having to do with content. It is always difficult to prove social influence, but it seems to me that one reasonable hypothesis is that the focus on measurable results contributes to the increasing reliance on methods, manuals, course design and frameworks in higher education.

Two of the assumptions mentioned above form the basis of the argument to follow. First, the pervasive academization of all kinds of training and the introduction of new sciences and disciplines require a ground for their claims to academic legitimacy. These are provided by the methods employed, rather than a theoretical question regarding a scientific problem arising in the discipline itself. For there is no "discipline itself" apart from the formal methods applied. These are what make the training in pet-store management, for example, "academic" to begin with. Second, the focus on measurable outcomes in current educational policy in Europe in general and the Bologna Process in particular buttress this model. New education programmes take "scientific method", understood in the automated, routine-following way I will describe, as an unquestioned and unquestionable starting point.

[1] In "The Bologna Process 2020 – The European Higher Education Area in the new decade", there is an explicit emphasis on "lifelong learning" as a goal, where this is articulated in terms of helping students "develop the competences they need in a changing labour market". And, "lifelong learning encouraged by national policies should inform the practice of higher education institutions".

[2] Within the academy itself, there has been a discernible standardization trend, especially in the social sciences, due to the influence of behaviourism in the 1950s, in which there has been an ever-increasing focus on method and methodological standardization. But this emphasis on method was based in and justified by explicit theoretical considerations and claims. In the present essay, I will show that today's fixation on method is quite literally scientifically groundless, that is, it is not based on intra-scientific considerations. For a thorough and insightful critique of the primacy of "methodism" in the social science since WW II and its historical roots, see Wolin (1969).

By way of a few illustrative examples, I will examine the consequences of this emphasis on method, design, disposition and frameworks on the content of teaching, on the content of the student papers and essays and in the conception of what it means to do scientific work conveyed in the classroom. I will also discuss two problems related to this fixation on method. The first problem is that the choice of method is often only very tenuously related to the theoretical or scientific questions that initially gave rise to the method. The second is that this disassociation from scientific ground has the consequence that the method is often badly understood and therefore badly applied.

## Composition

Students in nursing programmes, teacher's education and social work are often made to think that there exists "*a* scientific methodology", which contains a number of methods. A scientific approach in these professional training programmes is thus largely understood as the adoption of a certain set of rules and the use of a certain set of tools that are to be applied regardless of subject matter, be it mathematics, history or sociology. They are rarely aware that most of these methods have arisen within a theoretical context but tend rather to see theory as a product of method.

The standardization of scientific approaches is perhaps most clearly expressed in the structure and form of the student papers written in professional training programmes, some of the natural sciences and most programmes in the social sciences. The so-called IMRAD model (Introduction, Method, Results and Discussion) is ubiquitous. (I will not address its employment in the natural sciences for the simple reason that it was developed exactly for use therein.) It was initially introduced for the composition and structuring of lab reports within natural sciences such as chemistry and physics and spread to medicine and pharmacy, psychology and the behavioural sciences, and eventually to other social sciences. The model has thus far not made the same inroads in the humanities, although one sees an increasing employment in linguistics and languages.

Despite the variation in the area of investigation and problems addressed within the social sciences and professions related to them, IMRAD is taught as a general norm for *all* scientific writing, both with regard to what ought to be included in the report or paper and in which order what is included is to be presented. I have not studied the background to the expansion of the use of IMRAD, that is, how it came to constitute the norm for all academic writing regardless of discipline, problem or theoretical starting points, but one could surely find historical-genetic explanations for its proliferation and propagation.

Kjell Lars Berge writes:

> Since the breakthrough of liberal politics in the 80's the outcomes of scientific work are more and more becoming accepted as commodities. […] We can observe in this commodification of scientific writing a tendency towards what we might label "scientific fetishism". This tendency is indicated by the fact that the IMRAD-model, originally developed

> in the natural sciences as a text norm adapted to the doxa of these sciences, is even being imitated in sciences that investigate cultural facts and use the interpretation of human behavior as a basic method. An example of this trend is the development of scientific writing in linguistics. As shown in one of the Norwegian subject oriented research projects, linguists are trying to imitate the IMRAD-model and the doxa that comes with it, even though this entails that characteristics of the available data are being violated. Interestingly enough, these writing strategies result in complicated textual patterns that attempt to compensate for the incompatibility between textual norms and doxa (Berge 2007).

Berge suggests that the "commodification" or "scientific fetishism" of which he speaks of is not limited to innocuous conventions; rather, the conventions steer the *doxa*. One might say that a standardized structure such as IMRAD and its concomitant norms for disposition bring with them changes in the conditions of conceptualization for the discipline. In short, they determine what sort of investigation is possible.

Let us take a concrete example. The acronym itself, IMRAD, prescribes a sequence of the abbreviated terms. Thus, implicit in the model is a certain sense of "results", namely, that of "results of experimentation, observation or data collection". In other words, "result" here is understood as a product of the method that precedes it in the sequence. The IMRAD structure thereby determines the spectrum of possible methods: methods that render readable results, such as methods for data collection, laboratory experiments and the like. But there is good reason to question whether it makes sense in the case of the humanities and social sciences to assume from the outset that scientific method must always consist in experimentation or data collection or that "results" are by definition results of surveys, experiments or observations.

In the same spirit, one may ask whether results always and everywhere ought to *precede* discussion and analysis, which, according to the prescribed sequence, comes after the results. One might think that results are intrinsically connected to the theoretical apparatus assumed, which problems the results are solutions to, and how the project was conceived at the start. Indeed, in certain corners of the social sciences and especially in the humanities, the "results" arrived at have nothing to do with data collection, surveys or laboratory experiments. Rather, certain kinds of problems are solved *through* discussion, argumentation, textual and conceptual analysis and theoretical reflection. Thus, the IMRAD model as such dictates not just the form of presentation but the form of the scientific process itself. But why should one standardized model of academic form determine in advance what kinds of investigations are possible in every field of scientific inquiry? There are scholars who have criticized the model as a general standard of academic writing just on this point, even with regard to the writing of reports in the natural sciences, technology and medicine. In a review of Scott L. Montgomery's *The Chicago Guide to Communicating Science*, Michael Brady writes:

> The ostensibly universal IMRAD structure seldom is seen in practice, principally because scientific writing transfers poorly between fields. What is good in medicine is not necessarily good in electrical engineering. Moreover, belief in IMRAD evokes other absolutes, none of which lead to good writing. Even within a single, narrow field of science, attempts to

> impose detailed standards lead only to irrelevance. Though there's much to be said for observing the basics of good grammar and spelling, efficient communication does not rest on a bed of rules (Brady 2003).

Both Brady and Montgomery (2003) argue that scientific communication must be guided by the content of what is to be communicated and not regulated by a given standardized form of presentation. The craft of scientific writing is and has always been extremely important, of course, and everyone aspiring to do scientific work must master it. But the conventions utilized must reasonably serve the purpose to which they are to be put, that is, they must serve as a means for achieving the ends of science, the solving of scientific problems and the answering of scientific questions. It is difficult to see the sense in maintaining that the style of presentation is always superordinate the content of what is to be communicated. And yet, questions regarding the function of the IMRAD model, what it is in the investigations or studies in which it is used, what about it is "scientific", etc., are rarely discussed in the programmes in which IMRAD is most dominant or straight-out obligatory.[3] With no justification or discussion, students are expected to conform their writing and their thinking to the prescribed model. For the model is what legitimates the results of the course of study as science. But one might wonder if it weren't a better form of scientific training to help the student figure out for herself what model would be most appropriate for the kind of study she envisions, which alternatives there are, what their respective advantages and disadvantages are and what kind of composition is most suited to what kind of study.

As noted above, historically speaking, the IMRAD model was originally adapted to and adopted by strictly empirical areas of research. As such, it is in all likelihood adequate to the task for which it was constructed, that is, *certain kinds* of empirical studies. But this does not explain its pervasive implementation in the social sciences and professional programmes, where it limits what it is possible to study scientifically by expelling at the outset any kind of investigation that is not empirical at bottom. Perhaps it is an unintended consequence, but another possibility is that ubiquity corresponds to a standardized, mechanical conception of what scientific method consists in. Or, to put it another way, IMRAD can be seen as the material instantiation of the standardized methodology that has come to dominate the social sciences. This raises the question of whether the IMRAD model and the methodology which it incorporates are actually compatible with the wide variety of investigations and studies possible within the relevant disciplines. In the next section, I will demonstrate that, as a matter of fact, they are not. Nonetheless, the model is employed even where its use amounts to a performative inconsistency.

[3] I do not offer here any empirical evidence for this claim. But the reader is advised to choose at random any programme of study in the social sciences and professional training programmes such as teacher's education, public health and caring sciences, media and communications, business studies, etc. and seek "instructions for student papers". IMRAD is pervasive as the unquestioned norm.

## Method

On the one hand, the standardized methodology taught in teacher's education and nursing programmes, business and communications departments, etc. is expressed in the form of a methodological pluralism. On the other hand, this pluralism is limited for the most part to presenting the student with the choice between so called qualitative and quantitative methods. In the textbooks used in these programmes, "qualitative methods" is the term used to cover phenomenology, hermeneutics, social constructivism, symbolic interactionism, interpretavism, grounded theory and so forth (see, e.g. Atkinson 2005; Flick 1998; Silverman 2010). These are all presented as "non-positivist" or "anti-positivist" (e.g. Vasilachis de Gialdino 2011). Quantitative methods, on the other hand, are associated in some general way with positivism and, in the eyes of exponents of qualitative theories, objectivism. Examples of quantitative method so understood include, among other things, empirical observation, quantifiable experiments, surveys and statistical studies. Qualitative methods include, for instance, participant observation, in-depth interviews, focus groups, field notes and content analysis. In the latter case, it is common to allude to various philosophical schools and the epistemological and ontological theories arising out of them, such as hermeneutics and phenomenology, but these are often referred (or reduced) to methods. Quantitative methods are said to measure and establish facts. Qualitative methods are said to interpret and illuminate. In degree projects in teacher's education and nursing in the Nordic countries, participant observation, in-depth interviews and field notes, that is, qualitative methods, are massively predominant.

The distinction between qualitative and quantitative research methods has become thoroughly established within the social sciences and related professional training programmes such as nursing. At the same time, it has also been severely criticized. It has been argued, for instance, that a method cannot *per se* be qualitative or quantitative. One examines a certain phenomenon in different ways and arrives at certain conclusions about characteristics that can be formulated in words or numbers. Thus, for example, surveys as well as interviews and observations aim at revealing certain qualities or quantities or both, but the method itself cannot be described as qualitative or quantitative (Åsberg 2001). For what would a "quantitative interview" as opposed to a "qualitative interview" look like? What the terms actually designate are rather the *purposes* of the approach chosen, not some intrinsic methodological quality in it. The qualitative-quantitative distinction can in that case be understood as alluding to nonmeasurable versus measurable aspects of the phenomenon studied. This distinction is then carried over to the activity of discovering these qualities or characteristics. The motivation behind the two aims is often described in terms of other dichotomies: subjective-objective, holistic-atomistic, etc. In the end, the distinction can be traced back to Dilthey's distinction between explanation and understanding. Aside from our interest in the prediction and causal explanation of things, we have an interest in understanding them in terms of intentions, beliefs and desires. Moreover, data can be interpreted in different ways, and depending upon the significance one places on interpretation, subjective participation in the

determination of the object of study and theoretical reflexivity, one will choose a method that reflects that significance. But despite proclamations concerning the epistemological foundations for the method chosen, its theoretical underpinnings and conceptual conditions are rarely examined or discussed.

While quantitative and qualitative research methods are usually related to different perspectives on knowledge and how these direct the research proposed, the connection is most often purely terminological. In practice, they are labels for various techniques of data collection and organization. That qualitative methods have to do with data collection is clear from any textbook or manual, where the student is presented with a variety of techniques for collecting material but also methods in the broader sense of "how to solve a scientific problem", although these two are not always kept distinct.

Regarding the technical aspects of quantitative methods, the attempt is to establish how well the methods actually measure what they are intended to measure. For this reason, the concepts of validity and reliability are of crucial importance in quantitative method. Quite simply, one must be able to describe how well the data collection went. Validity and reliability are necessary conditions for the generalizability of the results. Validity and reliability in this sense were concepts developed exclusively for use in quantitative studies but have more recently become popular even in so-called qualitative studies (e.g. Golafshani 2003; Morse et al. 2002). This move is significant insofar as it shows how the vocabulary of method is deemed universal or at least generally applicable. At the same time, at first sight it is difficult to see what reliability and validity can mean in the context of qualitative studies. As a rule, in a study with a quantitative approach, one selects a method for the data collection which one judges to have a high degree of validity and reliability given *the aim of the study*. But in a study with a qualitative approach, the reliability and validity of the study are part of the process. In a study with quantitative aims, the concepts of validity and reliability are primarily attached to how the data is collected, with getting the right information in the right way. In qualitative studies, the concepts of validity and reliability are tied both to how the data is collected and how it is interpreted. In transferring the sense of validity and reliability from what is measured and how it is measured to what is *interpreted* and how it is interpreted, one changes the meaning of the terms. The validity and reliability of measurements and the techniques used to arrive at them are applied to phenomena that are, by definition, insusceptible of measurement.

If we are discussing traditional humanist education (or traditional social or natural science for that matter), the question of the validity and reliability of an investigation cannot be reduced to its technical aspects. The validity in how the material is selected and organized, the analysis and arguments and the reliability in the documentation, references and so forth are part and parcel of the scientific or scholarly presentation. Or, to put it another way, the science or scholarship is immanent in every detail of the investigation; it is not a template into which the material is fed and mechanically configured in order to be licensed as science or scholarship. By contrast, it is often the case today that, under the banner of qualitative method, the student accounts for the validity and reliability of her study under special headings

("validity", "reliability"), without regard to the nature of the investigation in question, such that one gets the impression that these concepts are added on, rather than integrated into, or immanent in, the study. Thus, it seems as if reliability and validity are isolated from the procedure as such, as foreign, methodologically inassimilable elements imported from the very quantitative studies in the long shadow of which qualitative studies have been developed as an alternative.[4] I suspect that qualitative methods, like quantitative methods, are focused on techniques for the collection, systematization and interpretation of data, that is, that both ultimately rely on the norms of quantitative studies. Qualitative research, with its emphasis on understanding, interpretation, reflexivity and so forth, wants to constitute an alternative or complementary approach while at the same time adopting in a transformed way the techniques and methods of quantitative research. It is for this very reason perhaps that the conceptual difference between methods for data collection and methods for problem-solving become unclear and irrelevant in qualitative studies.

## Scientific Terminology

A consequence of this focus on methodological rules and labels, exemplified above by the use of concepts such as quantitative and qualitative methods and validity and reliability, can be further exemplified by "operationalization", "design", "survey" and a host of similar terms. This nomenclature carries with it implicit methodological decrees stemming out of standardized indoctrination in correct method as such, rather than in the nature of the problem under investigation. The terms themselves, rather than internal scientific questions, become the starting point for every study.

The terminology determines in advance what sorts of problems the students see as legitimately belonging to science. The standardized methodological vocabulary is the first and final arbiter not only of how problems are to be handled but also which problems can be studied in the first place. Methodomania is manifested in a lexicon of terms that label each step in the production process. It is to be acknowledged that these prescribed terms might very well be useful and appropriate for a number of empirical studies in a given discipline. But the taxonomy that arises from the compilation tends to become a norm for both teaching and writing that is not anchored in the questions, problems or theoretical considerations out of which the methodological vocabulary was initially formulated.

Regardless of the suitability of the standardized methodological vocabulary I've described, training in method overshadows the theoretical considerations out of which it originally developed. Students are given the impression that scientific inquiry begins with method (or worse, with IMRAD): the acquisition and application

[4] A separate examination of validity and reliability can of course be relevant in a report on the results of an experiment in the natural sciences, for example. What I want to draw attention to here is the tendency to standardize this procedure regardless of the nature of the study at hand.

of a set of rules. One consequence, in my experience, is that when a student is asked *what* problem she wants to study, she responds by describing *how* she wants to study (in advance of the formulation of a problem). She chooses a method first and then a material upon which to apply it. The idea that one begins with a question or problem is not part of the research process.

## Theory

Even if the grounds given for the distinction between qualitative and quantitative methods are formulated in terms of an ostensible difference in epistemological foundations, in practice the difference seems to be rather purely technical or methodological (cf. Bryman 1984). Qualitative and quantitative approaches share the same scientific norms, namely, those deriving from an empiricist ideal of science. In the case of qualitative methods, this gives rise to problems having to do with the compatibility of the methods with the epistemological starting points, between theoretical framework and methodological practice.[5] Qualitative method is associated with phenomenology, postmodern theory and social constructivism; indeed epistemological theorizing of this kind in the context of "qualitative research" is often equated with method. But theoretical declarations and articles of faith do not suffice to secure the specificity of qualitative methodology. To the contrary, qualitative methods largely build on the same theoretical base as quantitative methods, making the distinction far less significant than is claimed in handbooks. The difference is methodological, but not theoretical.

The very fact that the student is presented at the outset with a *choice* between qualitative and quantitative methods presupposes that there is general agreement on the epistemological level. In the case of triangulation, the combining of different qualitative and/or quantitative methods to study a given phenomenon (e.g. Fielding and Schreier 2001; Moran-Ellis et al. 2006; Tashakkori and Charles 1998), the implicit underlying empiricist conception of scientific knowledge is even clearer.

Simply put, the empiricist view of scientific inquiry can be described in the following way: the object(s) of science is some delimited phenomenon to which the scientist has either direct or indirect access through observation and/or experimentation (data collection, as it's called). An empirical study takes for granted an externally existing empirical object. That this object has qualities that can be observed and described in various ways by means of different methods is an absolute condition for the possibility of choosing between methods to describe *one and the same object*. In this respect, methodological pluralism is an expression of objectivism.

My aim here is not to criticize the empiricist view of knowledge. To the contrary, most of what we consider solid science is based on empirical methods. My point is

[5] Since traditional quantitative methods by definition assume an empiricist conception of science, there is no problem of commensurability between theory and method.

rather that the theoretical assumptions undergirding qualitative methods are ignored or, what is more common, are incompatible with the theoretical apparatus articulated in the description of method. What is to be noticed here, among other things, is how a variety of theoretical reflections belonging in a broad sense to the idealist tradition are transformed into a special class of empirical methods without regard to the conceptual gap that exists, for example between hermeneutics and empiricism. When phenomenology, hermeneutics, social constructivism, etc. are all pressed together under the umbrella term "qualitative method", empirical phenomena are labelled constructions, interpretation of data is called hermeneutics, etc., there is reason to suspect that not much attention has been paid to the theoretical context in which the methods have been developed.

The epistemological differences between hermeneutics and poststructuralism are substantial, although both constitute in their own way a radical break with traditional empiricism and its epistemological underpinnings. The concept of empiricism as it is usually understood assumes an external relation between the knowing subject and the object of knowledge. The idea that *one and the same object* can be experienced and examined in different ways is a basic tenet of empiricism. To the extent that empiricism allows for subjectivism, the latter entails no ontological assumptions regarding the object. The subjective element is understood as a more or less arbitrary factor in the epistemological relation that is the source of uncertainty and fallibility. Precisely for this reason, rigorous methods are required. In the empiricist tradition, then, there is no questioning of the status of the external object as such, regardless of the subject's limitations in grasping it as it is in itself. In contrast, neither hermeneutics nor postmodernist theory conceives of the object as a given existing independently of language and cognition.

Hermeneutics as it has developed since Schleiermacher and Dilthey has very little to do with the kind of subjectivity associated with qualitative methods. To the contrary, the subjectivism of qualitative methods has roots in the empiricist tradition, especially in psychological subjectivism. One of the pillars of Husserl's phenomenological project was to avoid and undermine all forms psychologism and psychological subjectivism (Husserl 1900), such as participant observation, for instance. Phenomenological subjectivism starts out from the idea that an object is always an object for a consciousness, that is, an object of consciousness. With respect to the epistemological relation, one cannot speak of an object outside of the subject of consciousness. The object is determined as an object of consciousness, as something thought (or "intended", in Husserlian terminology). For an object to be an object, in the phenomenological perspective, it must be meaningful, or capable of being thought. The intended object is logically primary; it is an absolute condition for understanding, perception and knowledge of any kind. This logical condition is not to be confused with a psychological state. In psychological subjectivism, one can reasonably talk about "an object before consciousness", that is, an independently existing object that can be understood in different ways depending upon the subject's constitution.

Regarding hermeneutics, one can point out that one of Gadamer's main points in *Warheit und Methode* was that subjectivism *is not* a source of error or uncertainty about "the truth out there" (which would justify the development of "compensating"

methods). But neither can subjectivism justify relative interpretations of some "unattainable" objective reality. Second, as a consequence of the first point, the humanities and cultural disciplines should not be devoted to pseudoscientific methods (which would ultimately be justified by the fallibility of the knowing subject). Third, following from the first and second points, hermeneutics is not a method (since the empiricist view of an objectively meaningful world independent of the subject is here rejected) (Gadamer 1979). Both phenomenological and hermeneutic theories are grounded in an epistemology which is fundamentally different from empiricism on decisive points regarding the aims, proper limitations and contents of scientific inquiry. It is entirely unthinkable that a dyed-in-the-wool hermeneutician would claim that one and the same object can be examined or interpreted in a variety of ways (e.g. through "triangulation"), since hermeneutics rejects the idea of a self-identical object. In short, a methodological pluralism that means what it says is simply incompatible with hermeneutic theory.

In the case of poststructuralism, one can say that the main thrust of the theories so called is aimed at the idea that the relation between subject and object is an external one, since consciousness and its objects are both generated in and through language. The subject as well as the object are involved in and evolved out of the given structure of language. There is no method that can liberate the subject or the object from its entanglement in the linguistic system and the possibilities and limitations in it; thus, the subject has no access to a qualitatively discernible, independent object. The external relation that would make possible an objective observation or examination is repudiated.

Many would agree that neither hermeneutics nor poststructuralism are particularly practicable starting points for scientific inquiry. But they were never intended to be transformed into scientific methods for studying empirical phenomena. Nonetheless, both hermeneutics and social constructivism are placed side by side with empirical methods within the same scientific "universe".

The epistemological gap between empiricism on the one hand and poststructuralism, hermeneutics, social constructivism, etc. on the other that I describe above is generally disregarded in the methodological discussion and controversies concerning method, both by proponents and critics of the theories. In claiming that hermeneutics or deconstruction is a legitimate method among others, all of which can be used to investigate *one and the same object*, proponents of qualitative method reveal that they have not understood the basic premises of the theories in question, namely, that deconstruction and hermeneutics call into question the status of the empirical identity criterion which determines what the object is. They don't seem to grasp that hermeneutics and deconstruction are not conceived as methods to be used as instruments for describing an external reality according to the rules of empiricist inquiry.

In teaching the use of method, one has good reason to point out that *one and the same object* (public health, the environment, the flow of production, the classroom, etc.) can be studied from a variety of perspectives. The problem arises only when, in so doing, the plurality of alternative methods and perspectives is presented as different epistemological theories. For when the method is concerned with describing, say "our experience" of the object, the method cannot be justified by reference to hermeneutics

(which questions the idea of an externally existing, delimited self-identical object). Rather, what is described here is a psychologized pseudo-hermeneutics grounded in an essentially empiricist view of knowledge. Hermeneutics as a qualitative method assumes the empiricist epistemology that it takes itself to reject. In the last analysis, what it amounts to is paying more attention to personal experience and psychological states than to dry statistics and other measurements. But such preferences, however congenial, do not constitute an alternative epistemological framework. Of course, an object can be understood in different ways; of course, different methods will reveal different aspects of the phenomenon studied; of course, all data is open to interpretation, even in the most empirical investigations. But to claim that private or subjective experiences and empathetic interpretations constitute an alternative scientific method called hermeneutics is just jargon and terminological smoke and mirrors.

That the subject is determined by his horizon of understanding, his context or his situation and that the object is always dependent on the subject and the subject's position constitutes an epistemological explanation of the nature of understanding within hermeneutics. This means that, for the hermeneutician, what this explanation says is that there are certain inexorable conditions for knowledge. These conditions do not constitute a method that one can choose or not choose, but rather a basic outlook. The procedure of *choosing* to be subjective in advance of formulating a question or problem to be addressed demonstrates, to my mind, that the method takes precedence over and even replaces theoretical reflection and that the concepts of understanding, experience and empathy that are taken to justify the choice of method rather refer to our pre-scientific, everyday, psychological ideas. They certainly have no ground in epistemological reflection.

I have chosen a few examples of conceptual ambiguity regarding the theoretical presuppositions behind qualitative methods, but I take them to be illustrative of a more general point. Training in qualitative method in practice leads to a trivialization of the connection between theory and method. If one uses empirical methods and doesn't call them something else, all is well and good, even if the connection between empiricism and the empirical methods chosen is never explicitly formulated. But exponents of qualitative method often seem to be unaware or unwilling to admit that there is no fundamental difference in scientific conception between qualitative and quantitative methods. Labelling what is essentially data collection "hermeneutics" is misleading jargon.

I have attempted to show by way of the preceding examples that method rather than theory is in the foreground in a number of professional training programmes. With this focus, the student does not have sufficient opportunity to penetrate the connection between theory and method, which would give theory choice a rational ground. Instead, ontological theories and complicated epistemological problems are reduced to ready-made methods without any attention paid to the discrepancy described earlier. Irreducible differences between competing epistemological positions are ignored. Explicitly nonempirical theories and perspectives are adapted to a

monolithic empiricist scientific norm, on the one hand, and, on the other, different methods with varying degrees of empirical content are described as theoretical perspectives.

I'm inclined to think that empirical methods are probably the most fruitful and productive in the social sciences, but were I a hermeneutician, it would never occur to me to say that I have my own "empirical data". Nor would I dream of saying that science consists in "different ways of handling the data". Conversely, for those of us who are not hermeneuticians, it is worth being reminded that science is not only dependent on data: theoretical reflection and conceptual analysis are also part and parcel of science.

## Concluding Remarks

I have tried to show how the tendency towards the standardization of science affects not only the form but also the content. This standardization, which I think ought to be called into question, can be seen as a consequence of the aims of *the educational programmes themselves*. The "scientific best practice" which students are taught, to judge from their degree projects and essays as well as the strikingly uniform content of the textbooks used in these programmes, is theoretically naïve, not to say muddled. The ideas about what scientific theory and method are that are propagated in no way reflect the genuine complexity and multiplicity of subject matter, theories and methods that can be linked to the variety of disciplines and areas of study at the university, nor the variety of theoretical perspectives that could be relevant in studying society, human nature, language, culture or politics.

The effect of the standardized view of science in which students are trained is that it is presented and grasped as a universally accessible model, template or vocabulary. The use of IMRAD and the terms "qualitative or quantitative methods", "survey", "interview", "observation", etc. or, on another level, "validity", "reliability", "operationalization", etc. is equated with scientific thinking.

This standardized picture of science has its roots in, or at least been consolidated by, the academization of professional training, which was thought to improve the quality of that training. But as I suggested earlier, the phenomenon has spread beyond professional and vocational programmes. The loss of theoretical reflection can be seen as a result of the ever-increasing emphasis on the practical needs and interests of the labour market, where specific competences and particular skills are tied to concrete tasks and functions. One might think that the capacity for deeper reflection and logical consistency would be desirable in any context, a "general competence" as it's called in the Bologna Process. But apparently this is not the case, at least not if it throws a wrench in the works of the knowledge factory.

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# Chapter 12
# Higher Heteronomy: Thinking through Modern University Education

**Sharon Rider**

## Introductory Remarks

My purpose in this chapter is to reveal certain conceptual problems in connection with current conceptions of higher education and the connection between aims and means. I will argue that there is a self-contradiction, or at very least a fundamental ambiguity, at the heart of the discussion that renders the question "What is the primary task of a university?" unanswerable. This ambiguity has to do with our currently confused conception of the notion of what it means *to think*. I will use a particular example taken from the Bologna Process to illustrate this problem, but the aim is not to criticize the model as such. Rather, my purpose is to provide a perspicuous representation of what I take to be a dominant mode of reasoning. The case of "outcomes," which is my chosen example, is as much a symptom as a source of confusion.

As background to what follows, we might consider Max Weber's distinction between goal-rational and value-rational action. Goal rationality is the adaptation of conduct as a means of achieving one's ends, whatever these may be. That is, once a problem is formulated—let us say, "How can higher education contribute to public welfare and economic growth?"—rational choice in this sense consists in adapting institutions and behavior so as to efficiently solve the problem so posed. But Weber also describes another sense of rationality of actions where rationality is not merely a matter of effectiveness in weighing and furthering goals. Rational choice in this latter sense has not to do with furthering goals but with furthering certain values, especially values that are viewed as higher or ultimate. In these cases, concrete goals may well be merely means to the furthering of the value(s) in question. As a rule, Weber treats rationality as almost synonymous with efficiency in achieving explicit goals, but my point here is simply that a certain form of life (patterns of thought and conduct) brings

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about evaluations, norms, and values, and these are expressed in the formulation of any problem for which goals are conceived as solutions (Weber 1947).

I wish to suggest that there is necessarily a political or, rather, a moral dimension to all descriptions and definitions of the aims and purposes of higher education. Every statement regarding what higher education can or should achieve says something about what we value, how we view the relationship between the individual and the collective, what kind of world and what sort of society we are prepared to build and inhabit, and thus also what we want to change. In other words, the question of what higher education is or should be is, in the last analysis, the question of which values and ideals we as a matter of fact embrace, even if we do not explicitly refer to these ideals as ideals. In this respect, we might consider "education," like "art" or "justice," an "essentially contested concept" (Gallie 1964). Any particular conception of the notion of "education" is actually a specification of an idea, the use of which is essentially normative and evaluative; every application of it is therefore entirely conditioned by those norms and values (which themselves might very well be implicit rather than explicit).

Without a deeper discussion about the intimate connection between education and the values and form of life of which it is an integral part, all planning and evaluation, however meticulous their instruments, are quite literally meaningless, insofar as they are disconnected from the values which constitute their meaning. It is perhaps a sign of the times that we devote our energies and resources to the painstaking development of instruments for the planning, execution, and evaluation of educational institutions, as if the quality of these instruments were of momentous import. At the same time, we tend to forget the fundamental question of what it is that we are planning for, namely, the future. But the matter of what kind of future we hope and plan for is not itself a technical problem, neither is it merely a matter of economics or administration. Nor is it primarily a political concern. It is ultimately a philosophical and ethical question.

## An Education in Autonomy and the Interests of the State

> Fit man's education to what man really is. Do you not see that if you try to fit him exclusively for one way of life, you make him useless for every other? […]You put your trust in the existing social order, and do not take into account the fact that order is subject to inevitable revolutions, and that you can neither foresee nor prevent the revolution that may affect your children. (Rousseau 1969, p. 468)[1]

[1] "Appropriez l'éducation de l'homme à l'homme, et non pas à ce qui n'est point lui. Ne voyez-vous pas qu'en travaillant à le former exclusivement pour un état, vous le rendez inutile à tout autre […]. Vous vous fiez à l'ordre actuel de la société sans songer que cet ordre est sujet à des révolutions inévitables, et qu'il vous est impossible de prévoir ni de prévenir celle qui peut regarder vos enfants."

Inspired by Rousseau, among others, Kant argues that education (which, for Kant, includes the cultivation of both moral and intellectual qualities) is first and foremost directed toward the actualization of the human potential for freedom and self-legislation (autonomy) both in the individual and, ultimately, in the species. Kant distinguishes between physical and what he calls practical or moral training: "Practical or moral (vs. physical) education is education toward personality, the education of a freely acting being who can support itself and be a member of society, but who can have an inner value for itself" (Kant 1977, p. 712). The aim of education is not to drill the student in a set of skills as in the dressage of a horse, nor to train him in specific teachings and doctrines, but to *enlighten* him: the point is not to teach him what to think, but how to think (Kant 1977, p. 707). Toward the end of the *Metaphysics of Morals*, in a section on method in teaching ethics, Kant writes that the core of moral education is to make the student aware that "he himself can think" (Kant 1997, § 50, A 165). Notice that what Kant is saying here is that thinking for oneself does not arise spontaneously, but it is something that can be fostered, something that the human being can learn: thinking for oneself is something of which every human being is in principle capable, and it is achieved through education (*Erziehung*). It is through education and only through education, Kant claims, that the human being can achieve his humanity, that is, his *autonomy*. Further, through a carefully considered and well-devised program of education, humanity can look forward to a "future happier human species" (Kant 1977, p. 700).

What we see in Enlightenment thinkers such as Kant and Rousseau is a premium placed on the capacity to see the contingencies of the moment and the circumstances in which one finds oneself, including one's own present interests as well as the influence of others, as something upon which one can exert a greater or lesser degree of autonomous thought or action. Further, such a capacity for more autonomous thought and action is not seen as arising spontaneously, but rather as something to be achieved, through the deliberate care of the community, for the sake of cultivating a certain kind of human being. If the one who is to be educated is to devote his life to something more than slavery or manual labor, that is, to citizenship and a profession, then he must receive an education proper to the duties and responsibilities attending these. In particular, he must develop his capacity for responsible action, autonomous judgment, and conscientious decision-making, both in public and private, in matters both practical and theoretical. In short, one might say that the kind of human being to be cultivated through higher education is one capable of sound and independent *judgment*.[2]

The educational ideal outlined above bears witness, of course, to another time. In today's discourse, it seems romantic or at very least impractical and impracticable. And indeed, the norms and ideals such as I cite here cannot survive in a vacuum; they are born in and are nourished by the prevailing attitudes, concerns, controversies,

[2] One might be inclined to think that the current emphasis on "critical thinking" would constitute an example of this ideal. But, as I will argue, the automatized systems that have been introduced to train critical thinking as a general skill display in their conception and construction an instrumentalist interpretation of that goal which is remote from the ideal described here, and even at odds with it.

and problems that someone is trying to come to grips with. What Kant is trying to come to terms with is this: a person, a society, a state, a community, or a regent has a *legitimate* interest in the form and content of higher education. Thus, his question was not whether or not the state powers have the right to involve themselves in the affairs of education but rather under which conditions and upon what grounds this legitimate right can be exercised. In the end, the answer must rest on the nature of that interest. Humboldt writes:

> A university always stands in a somewhat closer relationship to practical life and to the needs of the state than an academy does, since a university conducts one of the state's principal tasks: the guidance of youth. An academy, on the other hand, has to do purely with knowledge alone. University professors stand in a very general relationship, insofar as they share with each other the problems of outer and inner institutional discipline, but as regards their specialized work, they communicate with each other only at random, as individual preference may dictate; other than this they go their own way. An academy, on the other hand, is made for subjecting the work of each of its associates to the judgment of all. (Humboldt 1963, p. 258f)

For just this reason, Humboldt argues for the importance of state control of certain university affairs:

> The appointment of university professors must be exclusively reserved to the state, and it is surely not good to permit the various faculties more influence in this matter than an understanding and fair-minded administrative body will do of its own accord. For antagonism and conflicts within a university are salutary and necessary. But the disagreements among professors on their specialties can, even unintentionally and without ill will, distort completely their point of view as to what is good for the whole. Furthermore, the quality of the universities is closely related to the immediate public interest of the government. (Humboldt 1963, p. 259)

I understand Humboldt's point here to be this: academic or scientific questions, that is, issues involving the actual form and content of research, scholarship, and teaching as such, ought to be assessed on academic or scientific grounds. But the university is much more than science and scholarship. Its very existence is based on the societal functions that it is to fulfill. And regarding these extramural functions, academic considerations are not always primary. This distinction between the legitimate interests of state power and the community, on the one hand, and the interests of science as a pursuit, on the other, is reminiscent of Kant's famous argument for freedom of speech (Kant 1996). Kant maintains that it is perfectly legitimate for the regent to limit the enlightened citizen's right to public expression insofar as the citizen expresses himself in his capacity as civil servant. As a scholar (or enlightened citizen), he is an equal among equals in the republic of ideas. But as a civil servant, say a clergyman or a tax collector, his rights are limited by his civil function, and he must answer to the state and his fellow citizens, and not only to other scholars. This theoretical distinction between strictly scholarly or scientific considerations, on the one hand, and institutional duties and public demands, on the other, also played out in the nineteenth-century battles over *Lehrfreiheit* and *Lehrnfreiheit*. The issue of how, when, and why these freedoms could and should be inhibited or not, that is, which values should have priority, was debated on and off well into the twentieth century. I take this to mean two things: that the question arose explicitly as a question

of the rationality of values as much as of how best to achieve explicit goals, and that the issue was considered a matter of the greatest import: the future of the nation.

Since the expansion and democratization of higher education during the second half of the nineteenth century, the practical function of the university (society's legitimate interest in it) has increasingly taken central stage in discussions concerning higher education. The entry and integration of new student groups (the working classes, immigrants, and, somewhat later, even women) posed new problems and raised new concerns. In particular, the university was to provide society with a technically skilled labor force while at the same time providing these new groups with training in the rights and duties of citizenship in a liberal democracy. They were to be freed from the shackles of ignorance and superstition as well as the ethnic, cultural, and kinship loyalties that bind them and deprive them of the opportunity to participate in the democratic process and debate enjoyed by their more privileged schoolmates. What we have here, it would seem, are two distinct aims which, at least when formulated in this way, seem difficult to weld into a single goal.[3] For thinkers of the turn of the century, in contrast to today's discourse, it was not self-evident that someone who had studied at a business school or a technical college was by definition "educated." To the contrary, there was a good deal of discussion about to what extent practical instruction could or should be integrated into the university. John Stuart Mill, for instance, in his inaugural speech as vice-chancellor of St. Andrews in 1867, thinks the issue needs to be addressed:

> The proper function of a University in national education is tolerably well understood. At least there is a tolerably general agreement about what a University is not. Universities are not intended to teach the knowledge required to fit men for some special mode of gaining their livelihood. The object is not to make skillful lawyers, or physicians or engineers, but capable and cultivated human beings. It is very right that there should be facilities for the study of the professions. It is well that there should be Schools of Law, and of Medicine, and it would well be if there were schools of engineering and the industrial arts. The countries which have such institutions are greatly the better for them; and there is something to be said for having them in the same localities, and under the same general superintendence as the establishments devoted to education properly called. But these things are no part of what every generation owes to the next, as that on which its civilization and worth will principally depend […] Men are men before they are lawyers, or physicians, or merchants or manufacturers; and if you make them capable and sensible men, they will make themselves capable and sensible lawyers or physicians. What professionals should carry away with them from a University is not professional knowledge, but that which should direct the use of their professional knowledge, and bring the light of general culture to illuminate the technicalities of a special pursuit (Mill 1984).[4]

The situation today is somewhat different, to say the least. In a word, it is not the case that "the proper function of a University in national education is tolerably

[3] This was an explicit concern, for example, in John Dewey's classic *Democracy and Education* (Dewey 1916).

[4] For Mill, astronomy, biology, physics, and mathematics were as important and even indispensable elements of a general or liberal education as law, political science, and, for reasons that can be understood in terms of "multicultural awareness," classical Greek.

well understood." Nor is it true any longer that there is "a tolerably general agreement about what a University is not," if we take that agreement to refer to the general acceptance of the claim that "universities are not intended to teach the knowledge required to fit men for some special mode of gaining their livelihood." To the contrary, the systems that have been devised by national governments and international governing bodies such as the EU for auditing and assessing the value and effectiveness of higher education are based on the criteria of standardization, mass production, and above all, employability. Universities themselves also follow rankings in branch journals, where the value of an education is tied to criteria such as the average income of its graduates 10 years after graduation, and adjust their programs to emulate those at the top of the list. In other words, what Mill took to be the definitive characteristic of a university is not a relevant factor in considering the value of a course of study in today's policy debates and discussions. To be sure, most policy documents, including those emerging from the Bologna Process, stress the role of the university in promoting ethnic tolerance, gender equality, and "democratic attitudes." And these are often tied in some unspecified way to training in "critical thinking." But it is difficult if not impossible to demonstrate convincingly the value of studying classical subjects such as philosophy, astronomy, and Latin in promoting these goals. For, as I will argue later, the rationality of offering such courses of study cannot stand and fall on their efficiency in promoting certain goals, but rather in promoting certain values, in particular, the value of autonomy (defined as the cultivation of the individual's capacity for independent grounded judgment). This distinction and its consequences will be the topic of the next section.

## The Goals of Higher Education as Policy

It goes without saying that such subjects as theoretical physics and intellectual history are unlikely to achieve the same success in attracting and retaining students or guaranteeing their future employment as more practical programs. The only rational argument in terms of desirable goals for their continued existence would have to be Socrates': however useful they may turn out to be, they will only be valuable if they are taught and learned as worth knowing in themselves. But in a society in which value is strictly measured in terms of foreseeable practical utility and economic growth, that is, concrete specified goals, it is perfectly natural that "employability" serves as the umbrella term for the technical competence and vocational skills required by industry, the market, and the public sector. Thus, a good education is by definition an education that produces highly skilled workers in great demand. An excellent education is one in which the students achieve such a high degree of technical accomplishment that they can not only follow technological developments and their attendant economic benefits but also actively contribute to them. An excellent university is hence one that produces innovations and innovators. This ideal constitutes

a radical shift from prior conceptions and ideals,[5] from ensuring that the coming generation consists of "capable and sensible men" to a concentration on commerce and competition. On a deeper level, however, one can see an alteration in the very notion of what it means *to learn*. As we shall see, while Enlightenment and Romantic thinkers in the classical liberal tradition, such as Rousseau, Kant, and Humboldt, saw cultivating the capacity for autonomous judgment ("Enlightenment") as central to all teaching, what we today in fact are promoting is *heteronomous judgment* as the educational and moral ideal.

Many policy and strategy documents and statements, reports, and proclamations emitted by universities as well as by governmental agencies, the EU, and the OECD have included remarks and formulations, albeit often parenthetical and decorative, in which the university is represented as something more than an essential component in an innovation system or a building block for sustainable economic growth. The first and primary principle in the *Magna Charta Universitatum*, the European universities' bill of rights, for instance, states:

> The university is an *autonomous* institution at the heart of societies differently organized because of geography and historical heritage; it produces, examines, appraises and hands down culture by research and teaching. To meet the needs of the world around it, its *research and teaching must be morally and intellectually independent* of all political authority and economic power. (Magna Charta 1988, §1; emphasis added)

Along with the emphasis on autonomy, one also finds various articulations of the universities' mission to ingrain in the student the habit of *critical thinking*, as in this enlightening passage from the EU's Bologna Working Group on Qualifications Frameworks:

> Democracy ultimately depends on the active participation of educated citizens. Education at all levels thus plays a key role in developing democratic culture. In addition to transferable (transversal) skills, the active participation of citizens requires a broad education in a variety of fields as well as the nurture of democratic attitudes and values and the ability to think critically (A Framework […] 2005, p. 24).

And further, at every level, from the BA to the doctorate, one of the essential "qualification descriptors" is that the student is "capable of critical analysis," although this is nowhere defined or explained. What is stated is that "competences, such as critical evaluation, were and are embedded or implicit in the assessment values and practices" (A Framework […] 2005, p. 63).

Thus, the capacity for critical thinking and the development of "democratic attitudes" are seen as somehow related to one another and, further, coupled to a

[5] I have intentionally avoided reference to any of the established theoretical positions regarding the philosophy of education. In my view, the majority of explicitly normative positions ("perennialism," "essentialism," "progressivism," etc.) in the main share the view that higher education ought to contribute something more both to the individual and to society than professional or vocational skills, if we are to justify the existence of institutions such as universities. Where there is disagreement, it has to do with what one takes these higher or broader aims to be and how these are best attained. I have not taken a clearly defined stance in that matter here, although I do suggest that the capacity for judgment (a philosophically difficult concept) is central.

specific "competence," namely, that of critical evaluation. But nowhere in the cited document, nor in related emissions such as the Prague and Berlin Communiqués, is there any elaboration of in what this relation consists or how these capacities are related to the bulk of policy concerned with employability, mobility, and standardization. Similarly, there are references to the importance of independent thought intrinsic to the conceptualization of higher education, such as the qualification descriptor for first-cycle degrees that the students have "developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy" and, for the second cycle, that they have "the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous" (A Framework […] 2005, p. 67. Interestingly, there is no such explicit formulation regarding the third cycle). Finally, there is an arid observation that "personal development" is still implicitly assumed to be one of the purposes of higher education, although again, its relationship to democratic ideals, critical thinking and the capacity for autonomous judgment is not clear and the connection with employability, the needs of the knowledge-based society and the other necessary competences, such as technological innovation, even less so. What is formulated explicitly and in great detail in these policy documents and formal guidelines adopted by universities throughout Europe, however, is how the goals of promoting mobility, establishing a system of credits and "easily readable and comparable degrees," etc., are to be realized and implemented and their fulfillment assessed. Notably, despite frequent references to "quality assurance" in formal higher education, there is no description of quality that is not already entrenched in the formal criteria for its achievement. (Here one is reminded of Bill Readings' definition of "excellence" as an idea devoid of content. See Readings 1996, pp 21–43.) Nonetheless, teaching staff, department chairs, and deans throughout Europe have been instructed in how to institute and administrate the realization of these value-disengaged goals.

Within this mechanized system of production and assessment, the professional judgment of the teacher has thus largely been reinterpreted as the capacity to administrate the system: to apply the framework and to choose the material which is to fill its templates. The student's faculty of judgment is exercised when she estimates the extent to which she has satisfied the course requirements as these are set out in the "expected outcomes." To be sure, all of this does give the impression that something important has been achieved in the formalization and standardization of the system of higher education, namely, objectivity and neutrality. And it is no accident that these systems are deemed desirable. For they stand in stark contrast to the "subjective" elements in the old forms of teaching and examination. But we should notice that the "subjective" need not be and has not always been associated with unreliability, arbitrariness, partiality, irresponsibility, unfairness, uncertainty, and caprice. Rather, the "subjective" can be understood in a Kantian spirit, that is, as the grounding of knowledge and understanding in the subject, as opposed, for example, to instrumental rote repetition, assimilation, and regurgitation. Hans-Georg Gadamer explains:

> It is not accidental that in this respect the word *Bildung* resembles the Greek *physis*. Like nature, *Bildung* has no goals outside itself. (The word and thing *Bildungsziel* –the goal of

> cultivation –is to be regarded with the suspicion appropriate to such a secondary kind of *Bildung*. *Bildung* as such cannot be a goal; it cannot as such be sought, except in the reflective thematic of the educator.) In having no goals outside itself, the concept of *Bildung* transcends that of the mere cultivation of given talents, from which concept it is derived. The cultivation of a talent is the development of something that is given, so that practicing and cultivating it is a mere means to an end. Thus the educational content of a grammar book is simply a means and not itself an end. Assimilating it simply improves one's linguistic ability. In *Bildung*, by contrast, that by which and through which one is formed becomes completely one's own. To some extent everything that is received is absorbed, but in *Bildung* what is absorbed is not like a means that has lost its function. Rather, in acquired *Bildung* nothing disappears, but everything is preserved (Gadamer 1975, p. 8.).

Gadamer concludes this reflection on education with the following remark: "*Bildung* is a genuinely historical idea, and because of this historical character of 'preservation' it is important for understanding the human sciences" (Gadamer 1975, p. 8.). And, as I noted in the beginning, education in this sense is most often associated with the humanities. But the idea formulated above is equally applicable to mathematics, physics, law, and political science seen as academic disciplines, rather than as means for achieving social, political, and/or economic goals. For this reason, it is important to keep the question of the dubious function and sinking status of the humanities in today's society separate from the issue of the status and function of the university as a whole. Naturally, there is an important connection between the two, but the ideal of higher education which Gadamer seeks to preserve, that is, that of a formative education the aim of which is to develop the capacity for autonomous thought and action and cultivate "capable and reasonable character" in the coming generation does not stand or fall with the issue of whether or not there should be publicly funded institutions for teaching and research in literature, philosophy, or ancient Greek.

## An Education in Heteronomy: On the Demise of the Philosophical Faculty

In this section, I want to describe how the automated systems that have been introduced and developed through the Bologna Process undermine all educational aims with another intent, that is, grounded in other values, than the economic or therapeutic. For the most part, the emphasis in policy documents is the production of degrees, patents, and products (innovation), albeit embellished with a colorful dash of "cultural competence" (*Bildungziel*) and a somewhat thicker layer of "social competence" (gender equality, ethnic tolerance, etc.) pasted on. The latter is an excellent example of what is meant by the term *heteronomy*. As Kant early on objected with regard to moral indoctrination, any dogma, thesis, or article of faith in the moral realm is easily forgotten or replaced. In William James pithy formulation, "a great many people think they are thinking when they are merely rearranging their prejudices." But in the Kantian tradition of education in autonomy, to which

Gadamer must be said in a broad sense to belong, such training is in a fundamental sense and of necessity superficial and, ultimately, ineffective, precisely because moral reasoning as such cannot be taught.[6] Someone who has arrived at a certain conclusion concerning, say, the intrinsic value and inalienable rights of all human beings, cannot so easily forget this conviction, whereas someone who has been schooled to recapitulate a litany of correct and/or desirable attitudes can more easily leave behind the lessons of her catechism. A permanent overcoming of one's own misconceptions, prejudices, biases, and preconceived notions, whether in theoretical physics or in social life, requires that one has arrived at clarity by virtue of one's own intellectual efforts. It presupposes that one takes responsibility for thinking things through for oneself, admitting one's own intellectual shortcomings, flaws, and failings. It requires of the thinker the ability to see that she can be mistaken and the insight that she will most assuredly continue to make moral and conceptual mistakes. Ideally, a good education will instill in someone the commitment to do better next time, to improve her thought processes, and to be on guard against her own intellectual and moral proclivities and inclinations. In short, a good education is characterized by critical thinking in the sense of self-awareness, self-criticism, and self-correction. But there is no ready-made general formula to realize this ultimate value in each and every student. It is not the kind of thing that can be automated and given an ISO number.

One obvious objection to the ideal sketched above is that the university never realized *that*. To be sure, but this is not a serious objection to the ideal *per se*. It is in the nature of regulative ideals, as opposed to practical goals, that they are never fully realized. Rather, they give meaning and purpose to all of our practical aims and ambitions. To say that the old university systematically failed to inculcate this kind of critical thinking is merely to say that it failed to live up to its own ideals. What is striking about the Bologna Process and its implicit assumptions is that this ideal plays no constitutive role whatsoever in the formulation of its goals and regulations (this is what I meant by calling references to critical thinking and democratic attitudes "decorative").[7] In his renowned speech "Science as a Vocation," Max Weber articulates the difficulty of realizing the ideal even as he argues for its necessity:

> It is quite true that perhaps the most challenging pedagogic task of all is to explain scientific problems in such a way as to make them comprehensible to an untrained but receptive mind, and to enable such a person—and this is the only decisive factor for us—to think about them independently. (Weber 2004)

But why exactly is the regulative ideal of independent judgment and autonomous thinking so essential? Weber, like Gadamer, is working through the implications of the Kant's Copernican Revolution in epistemology and the critical philosophy stemming

[6] For a nuanced exposition and analysis of Gadamer's idea of *Bildung* in a philosophical context, see Odenstedt 2008.

[7] For a comparison between former academic ideals and contemporary ones in this context, see Rider 2009.

out of it. This is not the forum to discuss this very complex phenomenon, but there is room for some consideration of the consequences for teaching and higher education.

In the *Conflict of the Faculties*, Kant admits readily the legitimate interests of government in the university as a means of "securing the strongest and most lasting influence on the people." Thus, with regard to the professional training of clergymen, legal officials and doctors, the task of the "higher faculties," he allows that what is to be taught needs to be sanctioned by the state. But with respect to the "lower faculty," that is, the sciences proper, it is not legitimate for the government to "play the role of scholar":

> It is absolutely essential that the learned community at the university also contain a faculty that is independent of the government's command with regard to its teachings; one that having no commands to give, is free to evaluate everything, and concerns itself with the interests of the sciences, that is, with truth: one in which reason is authorized to speak out publicly. (Kant 1979, p. 22.)

His argument in sum is that the professional training and teaching of the higher faculties is necessarily based on an organon, that is, edicts, norms, and statutes that issue from an external authority, such as the Bible and ecclesiastical laws in the case of theology, or the code of civil laws in the case of jurisprudence, or medical practice and regulations in the case of medicine. As authority, they "command obedience," as he says. The lower faculty, the faculty of science and scholarship proper, "occupies itself with teachings which are not adopted as directives by order of a superior […]. Now, we may well comply with a practical teaching out of obedience, but we can never accept it as true simply because we are ordered to." Kant goes on to say that the recognition of the truth of any statement must be grounded in the subject; acknowledging that something is true is something that the individual *does himself*. No one can do it for him. And "the power to judge autonomously—that is, freely (according to the principles of thought in general)—is called reason." Thus, the lower faculty, then known as the philosophy faculty (which included both moral and natural philosophy, that is, what we today would call the humanities and the natural sciences, respectively, although Kant makes the division between empirical or "historical" sciences, such as history and geology, and theoretical or "purely rational" sciences, such as mathematics and philosophy), "must be conceived as free and subject only to laws given by reason, not by the government." Further, every university must have such a faculty, "since *truth* (the essential and first condition of learning in general) is the main thing, whereas the *utility* the higher faculties promise the government is of secondary importance." Kant explicitly contrasts the offices of the "businessmen" of the higher faculties, with the critical task of the scientist and scholar. Further, it is the task of the lower faculty to interrogate freely, which is to say, rationally, the business of the higher ones (Kant 1979).

In his short popular essay mentioned earlier, "What is Enlightenment?" (Kant 1996), Kant argues that the essence of Enlightenment is the question for intellectual autonomy, the duty and right to make use of one's own reason without relying on external authority (i.e., heteronomy). This is not to say that knowledge produced outside of oneself is not valid, but rather that Enlightenment consists in a specific *attitude* toward that knowledge, namely, a critical (free, rational) one. A judgment arrived at

by virtue of one's own reason is grounded; in contrast, religious dogma, moral orthodoxy, and even civil laws that are merely obeyed, but not thought through by the individual, can easily be rejected or replaced by others. This means that even if a prejudice or preconceived or inherited idea is in fact true, that is, the content is correct, its form is flimsy. The attainment of truth as the product of one's own thinking is solid, since we know how we arrived at it, and, if need be, can retrace our steps. In this sense, the heart of science and scholarship has more to do with the form (a self-critical attitude) than the content (a systematic knowledge of facts). One can have knowledge in abundance, without a critical attitude toward that knowledge, in which case it is not scientific, properly speaking. It becomes science only in and through reason, which is always autonomous: it is in the nature of scientific thinking to be self-legislating, that is, not to take anything merely on authority. The corpus of professional knowledge and training, in this sense, cannot be coterminous with science, for the former is by its nature heteronomous.

Applying the stricture that a state or community has a legitimate interest in the affairs of the university, we may say that the state can reasonably intervene in the form and content of what is taught in the interests of the state, but not with matters involving the interests of science. In Kant's day, the former were institutionalized in the higher (professional) faculties. Today, one could say that the state sees no value in the interests of science as such (evident, among other things, from the fact that ministries of education and research have been replaced by agencies for research and innovation, where education and research are relegated to components of the innovation system). In a conception of the mission of the university as serving public interests solely by virtue of what it can contribute in a concrete and foreseeable way to the interests of the public, there is really no justification for the idea of academic freedom.

For the intellectual core of "academic freedom" is precisely the right to freely, publicly, and with no hold barred criticize with the use of autonomous reason even the most basic assumptions of our society and its beliefs (even those belonging to the social institution called "science"). This requires, however, that there are no set assumptions about or externally imposed demands on what *form* or structure this freedom should take, which would be tantamount to a self-contradiction (heteronomous autonomy). Interestingly, we can here see the link between a "democratic attitude" and "critical thinking," at which the Bologna Process vaguely gestures. In his *Critique of Judgment*, Kant offers three "maxims" for the human understanding: "They are: 1° to think for oneself; 2° to put ourselves in thought in the place of every one else; 3° always to think consistently. The first is the maxim of unprejudiced thought; the second of enlarged thought; the third of consecutive thought" (Kant 1914, § 40.). Kant goes on to explain that reason can never be passive, for passivity "belongs to the heteronomy of reason," also called prejudice. And the greatest prejudice of all, according to Kant, is to see the world and its workings as something beyond the grasp of human reason. This picture renders us passive and enslaved by and obligated to the authority of others. But a man whose mind has been "enlarged," however limited his natural gifts, can be educated to disregard "the subjective private conditions of his own judgment, by which so many others are confined, and reflect upon it from a universal standpoint (which he can only determine by placing

himself at the standpoint of others)" (Kant 1914, § 40.). In short, Enlightenment means being able to see clearly that one has starting points which are contingent and can reasonably called into question. Finally, "the third maxim, viz. that of consecutive thought, is the most difficult to attain, and can only be attained by the combination of both the former, and after the constant observance of them has grown into a habit. We may say that the first of these maxims is the maxim of Understanding, the second of Judgement, and the third of Reason" (Kant 1914, § 40.). Thus, if we transport Kant from Königsberg to Bologna, as it were, the argument would be that a lasting, genuinely open attitude is both a condition and product of achieved Enlightenment. "Democratic values" as orthodoxy are both fragile and inconsistent. But the openness to be attained comes through efforts of autonomous reason, not professional training. Thus, one cannot and should not expect academic achievement in technical skills or vocational education to be concomitant with an enlargement of the mind. In short, professional or technical training is not in and of itself an education. In the liberal tradition to which Kant belongs, the utility of autonomous reason lay in that the citizens of a state can, without violent revolution, over the course of time and through open debate, argument and discussion, realize a better form of government and a better form of life, without reliance on or obedience to external authority. But this vision requires, above all, patience. It is an alternative to revolutions, which merely replace one authority or orthodoxy with another, where no genuine human progress is made. So there is a connection between the cultivation of critical thinking and the advancement of democratic attitudes, but it is not a matter of the content of what is taught, but the *form*.

Now let us contrast this view of education with the primary purposes of the Bologna Process: to increase student mobility by ensuring transparency, coordination, and commensurability between different universities and to provide "quality assurance." The term quality, as we noted earlier, covers quite a bit of terrain, from formalized quantified measurement of success in accordance with (political and economic) stakeholder interests and demands to more qualitative associations having to do with student satisfaction and such. In each case, what is discussed and described in the documents that have emerged from the Bologna Process, on national as well as regional levels, are specific technical adjustments precisely in the *form* of education and evaluation. In these schemes, the focus is shifted from the active role of the teacher to the role of the student who learns:

> Traditionally within higher education, and largely irrespective of national agendas, programmes have been predominantly planned by the provider(s), with the coherence of the programme setting the context for any quality assurance, whether this is based on implicit/subjective or explicit/objective criteria. […]To accommodate such changes new approaches to quality assurance will be required, including some that can cope with a primary interest in units of study and their combination. (A Framework […] 2005, p. 51)

Thus, to ensure quality, the form of education should accommodate nonacademic interests and demands, rather than the nature of what is to be taught. And what Kant called "the subjective private conditions of his own judgement," from which he thought a proper education could liberate a student by teaching him how to think universally, is now to be the foremost consideration for the form of higher education.

It is no innocent modification to move from Kant's idea, in which the student should first and foremost learn to think for himself and realize that in fact he can, to a formalized system in which what is to be attained are various certifiable "competences" and skills. To the contrary, the system now being implemented throughout Europe would seem to lead to the student as well as the teacher relying more on external authority and protocols than on his own capacity to think:

> "Externality" is increasingly recognised as an essential part of quality assurance, and so it should be within the development and application of new national qualifications frameworks. For such frameworks to be of benefit to stakeholders, including intending and current students, and their employers, the frameworks need to be expressed in terms that are understandable and relevant. (A Framework […] 2005)

Further, the imposition of externally imposed forms of teaching and assessment has

> implications for qualifications, curriculum design, teaching, learning and assessment, as well as quality assurance. They are thus likely to form an important part of 21st century approaches to higher education (and, indeed, to education and training generally) and the reconsideration of such vital questions as to what, whom, how, where and when we teach and assess. The very nature and role of education is being questioned, now more than ever before, and learning outcomes are important tools in *clarifying the results of learning* for the student, citizen, employer and educator. (A Framework […] 2005; emphasis added)

What this says, in plain English, is that in the coming century, the very nature and role of education is to be "clarified," by an external authority, for students, citizens, employers, and educators. Quality assurance, in the framework of the Bologna Process, is synonymous with heteronomy.

I do not argue that a thorough course of study in traditional comparative literature or moral philosophy or Latin or astronomy or political science can or does inoculate the student from prejudice, narrow-mindedness or antidemocratic, sexist, racist, or misanthropic attitudes or opinions. But neither do courses in multiculturalism, gender studies, or queer theory. What can achieve such an aim, in the best case, is learning *how to think* (among other things, but not exclusively, about what would constitute the common good in a given question), which is not the same thing as the accumulation and systematization of facts, or a corpus of methods and theories. And it is most certainly not guaranteed by formal certification. If a state is genuinely interested in the good of the nation, from a liberal point of view, the best governance of science and scholarship *as such* would be academic self-governance, that is, the goverment would refrain from impeding the free exchange of ideas, both with regard to form and content. This is not, however, an argument for the autonomy of the modern research university, which is today largely the extended arm of industrial policy and professional certification agencies. It is an argument for allowing for an institutionalized form of education in intellectual autonomy, a "faculty of reason," one might say. How such an institution is to be organized is another question, but one simple answer is that the rules and dictates placed upon schools for engineering, dentistry, medicine, etc., with regard to the form of teaching do not apply to what was once called "basic research" (which includes much of the humanities, but also parts of the natural sciences such as pure mathematics) and studies in the subjects pertaining to these. A truly liberal form of government ought to allow for at least one institution where such autonomous activity can take place and be accessible to those seeking what Kant called "Enlightenment."

## Concluding Remarks

It is something of an irony that so much of the rhetoric surrounding the notion of utility in education and the student-centered perspective is associated with the name of John Dewey. Dewey's idea of utility and relevance is actually strongly at odds with the assumptions behind the Bologna Process:

> The vice of externally imposed ends has deep roots. Teachers receive them from superior authorities; these authorities accept them from what is current […]. The teachers impose them […]. As a first consequence, the teacher is not free, it is confined to receiving the aims laid down from above. Too rarely is the individual teacher so free from the dictation of authoritative supervisor, textbook on methods, prescribed course of study, etc. that he can let his mind come to close quarters with the pupil's mind and the subject matter […]. Educators have to be on their guard against ends that are alleged to be general and ultimate […] that education is literally and all the time its own reward means that no alleged study or discipline is educative unless it is worthwhile in its own immediate having […]. In education, the currency of these externally imposed aims is responsible for the emphasis put upon the notion of preparation for a remote future and for rendering the work of both the teacher and pupil mechanical and slavish […]. (Dewey 1916, p. 108f.)

What I have attempted to demonstrate is that there is an inherent contradiction between the idea of autonomous science and democratic values, on the one hand, and the mechanized objectivity and imposition of external demands by an unquestioned authority, on the other. I have been at pains to admit the need for higher-level vocational and professional training in contemporary society and recognize the needs of the state to safeguard public interests in higher education, both with regard to how resources are allocated and in terms of the regulation of certain kinds of public services. But the issue of the implementation of the Bologna Process as a general framework for all higher education is about something else. It undermines "the philosophical faculty" not only in Kant's institutional sense but also in the deeper sense of the individual's capacity for independent thought engaged and engendered as an essential institution in a free society. By relegating basic science and intellectual development to more or less necessary components in a system, the goals of which have nothing to do with science or intellectual development *per se*, it deprives them of their autonomy, which, I have tried to show, is in a sense their *raison d´etre*. If this sounds romantic and old-fashioned to our ears, it means that we deem autonomy and the pursuit of truth as an ideal to be anomaly and an anachronism and that we no longer see the value in teaching our sons and daughters that they themselves can think.

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# Chapter 13
# The Academic Contract: From "Simply a Metaphor" to Technology

**Daniel Ankarloo and Torbjörn Friberg**

## Introduction

"When it comes to higher education, these are these global trends," says the middle-aged woman at the podium while pointing to a large screen. The audience, in which one of us, Torbjörn Friberg, is present, reads the following:

Global trends:

- International competition – students, staff and resources
- The Global market – student fees and increased student mobility
- Flexibility of product and delivery model
- Branding and market positioning
- Strategic alliances – the right partners
- Accountability
- Increasing and diversifying income

The woman in question is a representative of the international department of a Swedish university. Her main message is to encourage the audience of teachers and researchers to become "more international" in their teaching. She reads aloud the seven points one by one, while emphasizing that opting out of these global trends is not an option. In this context, some university teachers in the audience nod their heads in approval, while others anxiously begin to squirm. The latter group, who seem critical of the trends, ask themselves if we should interpret the phenomena as a kind of marketization of higher education. After all, they argue, the picture presented of global trends would surely fit any private company in the business sector. At this

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moment, the university chancellor enters the conversation and says that there is nothing to be worried about. Nevertheless, during the break, there are some troubled voices among the colleagues. One teacher says: "We need to equip ourselves with some analytical tools in order to understand the new situation in the higher education system".

As we shall demonstrate in this chapter, it has become quite common for supervisors to propose the idea of a contract as a tool for regulating relations between student and supervisor. Given the problematic fact that an increasing number of students attending Swedish universities lack the necessary educational requirements, such as the academic writing skills (Högskoleverket 2009: 16R), it has become commonplace in academia to resort to the use of a contract as a solution to this problem.

This became noticeable when Friberg participated in a pedagogical course on thesis supervision, held at a Swedish university. The course was a forum for discussing different issues on how to improve relations between supervisor and student. An intense discussion was held one Friday afternoon among colleagues on how to establish a contract with a student at the very first supervision meeting. When those present were asked by Friberg if the idea of a contract was preferable to a reciprocal agreement, an associate professor responded: "It is simply a metaphor". Most of the other participants nodded their heads in approval. In spite of this, it later turned out that many of the participants of the course wrote papers on how university teachers should "establish a contract" – as a fact and not a metaphor. When Friberg asked why a contract was important, a lecturer replied that it increases the likelihood of a student finishing on time. "After all," he said:

> we live under new circumstances, where it is important to get students through the system in order to survive as a public organization. The new educational system demands that students do not hang around for too long. Promoting students means more money for the faculty.

We began this chapter with the above stories because they are striking examples of what has been described in the literature as "Academic Capitalism", "The Entrepreneurial University" (Slaughter and Leslie 1997), "The Innovative University" (Rider 2009) or "Science-Mart" (Mirowski 2011). Such concepts all relate to the introduction and dissemination of market organizational principles into the public sector under the heading of New Public Management, with the university system as a case in point.

The purpose of this chapter is to shed light on the ontological assumptions that underlie the idea of a contract in Academic Capitalism. As we shall demonstrate, far from being "simply a metaphor", there are now concrete examples of real contracts in Swedish universities, which we here designate "academic contracts". We shall try to delineate under which conditions academic contracts become a necessity. In investigating the perceived function of academic contracts, we will try to answer this fundamental question: For which problem, in what conception, is signing a contract between a student and an academic teacher a solution?

By analysing four existing academic contracts from Swedish universities through the lens of a very influential economic theory of the nature and function of contracts, New Institutional Economics (NIE), we will argue that the implementation of academic contracts is totally at odds with the Humboldtian tradition and the classic university. Our contention is that the introduction of academic contracts does not facilitate, but rather undermines, the academic teaching and learning process.

Towards the end of this chapter, we will propose that our analysis, although focusing only on the micro-level of contracts, can indeed shed further critical light on the Bologna Process, based as it is upon the ideas of "constructive alignment" and "learning outcomes".

## The Four Contracts

Several policy documents in Sweden emphasize the importance of establishing a contract between the academic supervisor and the student. For this analysis, we will take four such documents, all from Swedish universities, as the starting point. The first, *Examensarbete i datavetenskap vid Uppsala universitet: Utförande, redovisning och bedömning* (*contract 1*), aims at a common policy concerning examinations in computer science. This seven-page document describes explicitly the different roles of students, supervisors and examiners. On page five, we read the following:

> The specification could be seen as a "contract" between student, supervisor and examiner. The document shall contain requirements, goals, modes of procedure, scheduling and demarcations for the examination (*contract 1*, Uppsala Universitet 2004).[1]

The quote defines the concept of a contract between the parties involved in rather vague terms, dealing only with broad outlines rather than concrete rules. However, there are other policy documents that are more explicit.

One such document *is Examensarbete PM för studenter i Teologiska programmet* (*contract 2*) from The Stockholm School of Theology, which consists of 13 rules that are to be followed. We read under point three:

> When the presentation of the problem is approved by the supervisor, a contract will be established between the supervisor and the student. The supervisor gives a copy of the contract to the student (*contract 2*, Stockholms Universitet 2007).

Further down, the contract states the following:

> Time of presentation of the thesis: Scheduling is to be made in consultation with teachers who teach the methodology course. The student is responsible for ensuring that the thesis is printed and distributed to the opponent, examiner(s), students concerned and to the library one week before the scheduled day of presentation (*contract 2*, Stockholms Universitet 2007).

[1] All translations from Swedish original into English are by the authors of this chapter.

In contrast to *contract 1*, *contract 2* explicitly establishes "a contract" between the two parties involved. However, it does not explicitly explain the content of such a contract. We can turn to the Bachelor Programme in Nursing at Malmö University (*contract 3*) to find a ready-made contract. This contract lists six codes of conduct as regards group tutoring of papers:

I commit to:

- Letting the person talking finish without being interrupted by irrelevant questions.
- When a participant speaks, I will take her/him seriously.
- When a participant speaks, I will listen without preparing my own point of view. I will do this when the person has finished.
- It is permissible to be verbally passive, but I will not position myself as an outsider and silently demonstrate that I am bored. When the group has decided to discuss an issue, I have committed myself to participate.
- None of the participants has the exclusive right to the only correct solution to a problem. Disagreement is important and instructive.
- To be bound by professional confidentiality (*contract 3*, Malmö högskola 2007).

The commitments listed apply to both students and supervisors. The contract, which is to be signed by the student, also includes written expectations that the supervisor should structure the supervision, in tandem with assisting the progress of the student's work.

We find another explicit contract in The Institute of Public Health Science, Stockholm University (*contract 4*), which calls for:

A written contract that regulates the contact between supervisor and student in order to facilitate work and avoid misunderstandings. The following must be a part of the agreement:

- Timetable for paper (dividing the work into phases or sections and writing down when every phase is to be finished).
- Dates and times for planned meetings and the purpose of these meetings (i.e. when each of the phases listed above are finished).
- Forms so that the student can continuously inform the supervisor about the progress of the paper.
- For how many hours is the supervisor available during the writing process (one hour a week)?
- Agreement as to whether the supervisor is allowed to use the student's data and, if so, in what way (*contract 4*, Stockholms Universitet 2003).

Before bringing to light the hidden (non-transparent), implicit ontological assumptions that we argue underlie the four academic contracts, we will first provide a brief overview of some fundamental concepts of the new institutional theory of contracts, suitable for the purpose at hand of analysing the above-mentioned contracts. Then we hope to demonstrate that what, at first, seems to be a rather innocent move of trying to enhance and facilitate the learning process in fact threatens the whole fabric of relations between student and university teacher.

## The Ontology of Contracts: Through the Lens of NIE

From the late 1960s and onwards and with great proliferation in the 1970s and 1980s, mainstream economics turned towards analysing the institutions and organizations of capitalism using certain new conceptual tools. In what has subsequently become known as "property-rights theory", "transaction cost economics", "law and economics" and so on, a body of work has established itself under the heading of New Institutional Economics (NIE) as perhaps *the* economic analysis of the day – at the latest when the Nobel Prize in Economics was awarded to three of its chief exponents: Ronald Coase, Douglass North and Oliver Williamson.[2]

Although we will take NIE as the analytical point of departure here, it is not because it is the only theory of contracts and definitely not because we agree with it.[3] Rather, we will argue along the lines of Ben Fine and Dimitris Milonakis (2009) that NIE is a "revolutionary" form of "economics imperialism" – the attempt of economists to colonize other social sciences.[4] Furthermore, we argue that it is these very same concerns and analyses revealed implicitly or explicitly in NIE that have in practice been used to transform and colonize the public sector, including higher education under Academic Capitalism, via managerial market principles, that is, New Public Management.[5]

Notwithstanding some important differences in analysis of various exponents of NIE, there are certain common denominators and concerns that stand out. All of these point to the centrality of the (labour) contract in the analysis of *The Economic Institutions of Capitalism*, the title of Williamson (1985).

The main achievement of NIE in relation to neoclassical economics is the proposition that exchange is not smooth and "spontaneous" but instead problematic. The reason for this, argue new institutionalists, is that exchange is "costly". For exchange to take place, certain "transaction costs" – "the underlying costs of exchange" (North 1989: 661) – must first be overcome and successfully overcoming these costs, "friction" in Williamson's (1985: 18) telling analogy, is the prerequisite for the transaction.

The actual presence of transaction costs, pointing to the necessity of contracts, hence presupposes a specific ontology of the (economic) world. This ontology has two building blocks as its starting point. (i) The first is the presence of "ubiquitous"

[2] For exposés and definitions of NIE, see, for example, Eggertsson (1990); Furubotn and Richter (1997).

[3] Ankarloo's PhD thesis forms a critique of New Institutional Economics. For concise summaries of the foundations of this critique, see Ankarloo (2002); Ankarloo and Palermo (2004).

[4] See, for example, Williamson (1985: 16): "[Transaction cost economics] applies to the study of economic organizations of all kinds" or Barzel (1989: 98–99): "The property rights approach applies to all human behaviour and all human institutions".

[5] For general overviews of New Public Management concerning Sweden, see Almqvist (2006), Hasselbladh et al. (2008) and Christensen et al. (2005).

uncertainty, that is, lack of transparency both in the environment of decision-making and in social relations to the other parties involved in the exchange. The latter arises from the possibility of distortions, misconceptions and misunderstanding of information due to the different cognitive and interpretative schemes of the actors involved in the transaction. (ii) The second is "bounded rationality" in human action, a concept initially associated with Herbert Simon, denoting the real limitations of rational decision-making in light of the limitations of the computational capacities of the human brain, and the time constraints to any one agent's decision-making process.

The presence of the two above-mentioned characteristics of human action invokes *ex ante* transaction costs of exchange, in terms of "search and information costs". Moreover, there are "bargaining and decision costs", associated with the negotiating process, which derive from the – again "ubiquitous" – uncertainty of the exact delineation and assignment of the property rights over the assets to be exchanged. Lastly, there are *ex post* costs, "monitoring" and "enforcement" costs, "/…/ to see that [the other party's] obligations are carried out as determined by the terms of contract, and of enforcing the arrangement reached", as Dahlman (1979: 148) phrased it. Another exponent states: "The fundamental idea of transaction costs is that they consist of the costs of arranging a contract ex ante and monitoring it and enforcing it ex post /…/" (Matthews, quoted from Eggertsson 1990: 14).

The most organic attempt in NIE to conceive the ontology of the requirement of having a contract is to be found in the works of Oliver Williamson. His theory added individual "opportunism", defined as "self-interest seeking with guile" (Williamson 1985: 47), to the ontological conception of "bounded rationality" and viewed this of utmost importance. In his own words:

> /…/ [O]pportunism refers to the incomplete or distorted disclosure of information, especially the calculated efforts to mislead, distort, disguise, obfuscate or otherwise confuse. It is responsible for real or contrived conditions of information asymmetry, which vastly complicate problems of economic organization (Williamson 1985: 47–48).

One cannot overemphasize the importance of opportunism in the conception promoted, especially in Williamson's theory, when he says: "Note, moreover, that /…/ conflict and haggling /…/ will never appear in opportunism-free groups /…/" (Williamson 1999, quoted from Hodgson 2004: 403).[6]

There is of course much more to NIE than has been accounted for here, not least since the publication of the classic article *The Nature of the Firm* (Coase 1937); a new institutionalists' main concern has been to explain the nature and boundaries of the firm (hierarchy) in relation to the market (nonhierarchy). However, for our purposes, the ontological foundation of both the market (the exchange of goods) and firm hierarchy (the labour contract) is the same in that they both point to the centrality of a contract. Williamson (1985, Ch. 2), hence, replaces "the economic man" of mainstream economics with "the contractual man", and Steven S. Cheung (1983) talks of "the contractual nature of the firm". Cheung (1992: 56) explains: "/…/ almost every

[6] The necessity of "opportunism" in explaining the firm (labour contract) has been questioned. For critiques of Williamson in this regard, see Hodgson (2004); Love (2010).

individual in our society is a contractor or a sub-contractor, or sub-sub-contractor, and we all compete /…/".

Based on the summary so far, we can summarize the ontology that necessitates a contract:

1. The social relation is defined as an exchange relation of property rights between separated (atomistic) individuals.
2. There is uncertainty – asymmetric information and transaction costs – that entails the presence of…
3. … bounded rationality in human action.
4. Individuals are (at least for the purpose here) "opportunists", free-riders or "shirkers".[7]
5. The starting point of exchange is therefore two opposing parties who meet in a situation of mutual distrust.

The combination of statements 1–5 points to the necessity of a contract for overcoming these constraints. We now turn to the role and function of this contract.

## The Contract Solution

The NIE concept of the role and function of a contract is "to reduce transaction costs". Successful contracts overcome the "frictions" that are obstacles to exchange by translating the initial mutual distrust of the opposing parties into trust and the realization of the mutual gains as part of an exchange, the cornerstone of the economist's conception of market capitalism.[8] As mentioned above, in NIE and most specifically in Williamson's case, the main focus is to explain which "governance structure" is most suited for carrying out economic transactions – the market or (firm) hierarchy – based on their respective efficiency in lowering transaction costs.[9] Yet since the question of the most efficient governance structure need not concern us here, we can settle for summarizing the perceived function of contracts – no matter whether they are applied in a market or hierarchy setting.

The successful reduction of transaction costs in exchanges between the parties involved presupposes the delineation of the property rights over the assets to be exchanged.[10] In simple terms, this means that before any transaction can take place,

[7] The "shirking" explanation of the firm in NIE is associated with Alchian & Demsetz (1972). In their view the firm arises when "/…/ it is difficult to restrict *shirking* through simple market exchange between contracting inputs" (1972: 783, emphasis added).

[8] Cf. "Transaction cost analysis /…/ is appropriate for studying the frictions in the system which may prevent the implications of received micro-theory from going through" (Williamson 1974: 1495).

[9] See Williamson (1985: 90): "/…/choice between firm and market thus turns entirely on governance cost difference".

[10] A property right is defined as the right (a) to use, (b) to derive an income from and (c) to exchange an asset (Furubotn and Richter 1991: 6).

questions of who owns what, and under what conditions, must first be settled. At the macro-level, the definition, protection and enforcement of property rights are matters for the state.[11] However, on the micro-level, the delineation of the property rights is specified in a contract. This involves negotiating and bargaining the terms of the transaction as well as defining and allocating the rights and obligations of the property rights to be exchanged between the opposing parties.

A contract is efficient when it creates convergent expectations and convergent interpretations of the terms of transaction between the contracting parties. Or, in the parlance of the day, a contract should specify convergent expectations of *accountability*. In short, a successful contract achieves transparency. This facilitates exchange in that it reduces the ontological uncertainty caused by bounded rationality and hence limits the wiggle room for opportunism and shirking.

Before we proceed to analysing the academic contracts in light of the above, two more aspects of the NIE theory of contracts must be mentioned.

Firstly, successful contracting depends upon "third-party" protection and enforcement, most often by the state. A contract is a judicial document that needs to be enforced by the legal system, not least in the event of breach of contract. As we will see in the following, no such clear "third-party" enforcement is as yet in place in academic contracts.

Secondly, and more importantly, the emphasis in NIE on property-rights delineation via a contract is related to its theory of economic growth. As with standard neoclassical economic theory, NIE exponents hold the view that exchange (on the market) is the engine of *growth* and *economic development*. Thus, failure to exchange literally results in economic stagnation and decline. It is in overcoming the obstacles to exchange and the reduction of transaction costs that the contract is so vital for economic success.

The Bologna Process and the marketization of higher education in Academic Capitalism translate this notion into the importance of (higher) education as such, as the following quote from The European Commission (2012) indicates, for example:

> The approach recognizes that high-quality pre-primary, primary, secondary, higher and vocational education and training are fundamental to Europe's success. However, in a rapidly changing world, lifelong learning needs to be a priority – it is the key to employment, economic success and allowing people to participate fully in society.

Thus, a failure of the academic contract in higher education would literally constitute an obstacle to "Europe's success".

The same economic concerns are then transmitted to university staff. As the colleague mentioned in our initial story affirmed: "It is important to get students through the system in order to survive as a public organization /…/ Promoting students means more money for the faculty". Therefore, the right academic contracts must be put in place.

[11] "A theory of the state is essential because it is the state that specifies the property rights structure" (North 1981: 17).

## The Academic Contracts

Departing from the account of NIE theory of contracts detailed above, we now return to the four academic contracts. In linking the general theory of contracts to academic contracts, we have used a step-by-step analysis under separate headings for expositional convenience.

### *Opposing Parties in Education*

If we consider the matter of academic contracts more closely, we see that the parties concerned – the students and supervisors/teachers – are separate from each other from the very beginning. The operative word in *contracts 1* and *4*, under analysis here, is "between" and not "together". This dualistic representation of the parties involved is more evident in *contract 1*, in which the examiner acts in a third party. All in all, those involved are required to show consideration for two other opposing parties when looking out for their own interests.

When it comes to *contract 3*, it seems that the different parties are even further apart from each other. In this contract, every individual actor is seen as a separate part. Each individual is understood as an atom. The situation postulated in *contract 3* is that individuals do not speak or listen together but do so separately.

In light of these facts, it is possible to argue that the contract separates and defines a group of people into atomistic and opposing parties. Having thus been separated – the academic contract of exchange becomes necessary to reunite the individuals. What has come "between" the teacher and student must, via a contract, be overcome in order to re-establish unity. We argue in this light that the academic contract turns out to be a solution to a problem that it actually created itself – the separation between the individual teacher and student.

The academic contract, like any market exchange, aspires to place student and teacher on par with each other. It does this in two aspects: on the one hand, a contract encourages the actors, now conceived of as opposing parties, to be different from one another – in their respective roles as buyers (demand) and sellers (supply) on the market. On the other, the contract forces them to be the same, due to the reduction of both parties to mere market actors. Instead of social hierarchy, based on professionally informed mutual trust, we find a horizontal relationship of equality, with opposing parties, based on uncertainty and lack of information, due to non-transparency.

### *Mutual Mistrust*

As we have previously argued, the necessity of contracts is constituted by mutual mistrust. When it comes to *contract 1*, the opposing parties have to make the requirements, the goals, the modes of procedure, the time shared in exchange together and

so forth clear to each other, with explicit delineations. In order to make this process transparent, the contract aims to (re)establish mutual confidence. The main focus in *contract 2* is, above all, time and accountability. In these circumstances, the contract aims to specify scheduling and the student's responsibility. In relation to *contract 3*, one could argue that the presupposition is that the opposing party of the contract is unable to be quiet, is unable to not ridicule other parties, is incapable of listening, is unable to not be actively bored and aloof, is unable to not expose arrogance in expressing the right solution to a problem and is unable to be bound by professional confidentiality. *Contract 4*, for its part, presupposes that the opposing party is an aggravating circumstance and thus creates a great deal of misunderstanding.

Therefore, the role of the academic contract is to make it easier to avoid any such misunderstandings and to bind the opposing party, in this case the student, to be transparent in listening, showing interest and so on. In the same way as *contract 2*, *contract 4* aspires to determine specific points in time and a concrete timetable in order to control the writing process.

To sum up, the underlying premise of all of the academic contracts is mutual scepticism, which means the one party (implicitly or explicitly) conceives of the opposing parties as opportunists who are going to shirk and trick you if they get the opportunity. This is the main problem – in order to overcome shirking and opportunism and to turn these back into mutual trust – for which the contract creates the solution when aspiring to transparency and accountability in order to facilitate the regulation of the social relation. Furthermore, this means that the parties involved are recommended to codify openly what was previously hidden and non-codified, with the aim of moving the opposing parties beyond earlier mistrust and opportunism. Only then can successful "exchange" be achieved. It is from this point, we argue, that the contract loops back to the starting point of two opposing parties.

However, as has been noted by Haridimos Tsoukas (1997), the urge to codify and make transparent that which is tacit and hidden in professional knowledge does not engender trust. It undermines it instead. This is also why an overzealous concern for avoiding opportunism may be counterproductive. As one observer put it:

> [A]s industrial studies have repeatedly shown, the presumption of innate opportunism is fatal to trust. /…/ It leads to a proliferation of control structures /…/. These create resentment and distrust among employees, who correctly perceive the controls as expressions of their employer's distrust (Jacoby 1990, quoted from Hodgson 2004: 411).

As both Tsoukas (1997) and Hodgson (2004) argue, the idea of transparency as a solution is built upon an ill-conceived empiricist, "decontextualized" view of knowledge as "objectified" (codified) information. This runs counter to the realization that in order for information to become knowledge, it has to be interpreted, that is, all knowledge is subjectively and socially contextual. Even where bits and pieces of information can be transferred "between" separate individuals, knowledge formation and generation cannot. As Tsoukas (1997) has pointed out, the larger the stream of (decontextualized) information between individuals in society, the less we actually know and understand.

## *The Objectification of Knowledge as Property Rights*

Whereas *contracts 1* and *2* in our study contain no well-defined ownership of property rights, this is not the case in *contracts 3* and *4*.

*Contract 3* stipulates that the individual owns the right to a certain level of performance. The defined ownership here is about specific "property rights" *assigned* to the individual: one owns the right to speak, to be taken seriously, to include individuals in conversations and to disagree. This is much in line with the property-rights theory that "human rights are simply part of a person's property rights" (Barzel 1989: 2, footnote 3). What is regulated and controlled between the individuals in *contract 3* are literally objectified properties, like the flow of sound waves, words to be spoken by one person and listened to by others, or, as the case may be, "silence". Even emotions such as boredom are objectified and regulated so that the contractors commit via their physical expressions to making objectively transparent that they are not displaying feelings of boredom.

In contrast to the delineated right to one's own actions and to oneself, *contract 4* defines the right of both parties to schedule meetings. Moreover, the student has the right to know how the supervisor is going to make use of her or his results. Both academic contracts at hand, thus, define the ownership of social and intellectual property rights. The academic contract transforms certain social and intellectual aspects of human interaction into exchangeable property rights over objects. In *contract 3*, even our innermost subjective feelings, now objectified as pieces of information transformed by one's expression, gestures and actions, are objects to be delineated and regulated between the two parties in a contract. The same goes for the information contained in a finished paper in *contract 4*.

## *Sanction Mechanisms*

So far, the contracts analysed above have not included any explicit sanction mechanisms. In the language of NIE, there is a lack of apparent "third-party enforcement".

However, even though no sanction mechanisms are to be found in written form, we argue, based on research and reports by ourselves and colleagues on the regulation of Swedish Higher Education by marketization and polity (Ankarloo and Friberg 2012), that there are clear signs of their existence in the social academic world.

In line with Michel Foucault's argument of "technologies of the self", Friberg (2012) argues that the relations between teachers and students at Swedish universities are becoming more and more subject to various policies of education (e.g. pedagogical courses, the victimization of the student role and the edicts of constructive alignment), which can be understood as regulators of both thinking and behaviour, flowing through the individual as codes of conduct. These codes of conduct underlie the constitution of "moral subjects" as they correct, evaluate and supervise their own

actions in relation to the new rules of Academic Capitalism, including, *a fortiori*, the academic contract. The sanction mechanisms at work, we argue, ought to be seen as implicit and moral. They manifest themselves in various ways – for example, by way of frustration, anxiety and disappointment – if we violate the contract. Or, as we demonstrated in the introduction, in the opposite case, in the nodding approval from both colleagues and/or university administrators that the individual teacher experiences when complying with the rules established by "the new circumstances" of Academic Capitalism, including uttering the words "we need a contract".

The extent to which we can more fully understand the manifestation of such implicit moral sanctions is an empirical matter for future analysis and research.

### *Learning Outcomes in Light of the Academic Contract*

Our analysis can help to shed new light on learning outcomes as a contemporary guiding pedagogical principle of education. At the analytical level, learning outcomes can be treated as yet another academic contract between students and teachers, not least since these are closely related to the obligatory course evaluations from students after the completion of a course. Student evaluation of learning outcomes, we argue, is a way of acknowledging the student's reception of knowledge from the teacher during the course. Since the student evaluates, in written form, a teacher's ability to effectively and speedily transfer "the knowledge object" to the student, an evaluation of the codes of conduct is made. As in academic contracts, learning outcomes and the evaluation system conceive and establish an initial mistrust between student and teacher, which must then be regulated and checked *ex post*.

In the process, the directive and regulatory functions of directors of studies, the general public and the Swedish National Agency for Higher Education are reduced to that of checking if the exchange of the knowledge object, the transfer of the property right, from the supplier (the teacher) to the demander (the student) has been efficiently executed; a process that again acts as a sanction mechanism on both teacher and student.

## Conclusions

If our analysis is correct, the introduction of academic contracts in higher education does not constitute a better method of facilitating the learning process. It is not a solution. On the contrary, it entails the total redefinition of the social relation between students and teachers from one of reciprocity, based on mutual trust, to (market) exchange, based on mutual distrust.

The introduction of academic contracts entails the reduction of the process of socially contextualized knowledge into the decontextualized objectification and packaging of information as a substitute for this knowledge. The introduction of

academic contracts reformulates the goals of education in line with market principles of "growth" in terms of measurable, objectified and transparent objects of skills and information, and it reconstitutes the moral subjects of education – teachers and students – in conformity with the new requirements of Academic Capitalism. The Humboldtian ideal of idle curiosity in learning is replaced with micro-rational cost-benefit calculations. The level of maturation no longer constitutes the limits and boundaries of both teacher and student efforts but is instead done by the delineations of contract. Whereas learning more requires the increasing *assumption* of one's own responsibility, the academic contract risks promoting conduct from both teachers and students that aims at *transferring* responsibility to the opposing party.

With the objectification of knowledge into property rights over assets, students are no longer conditioned to cultivate knowledge but to demand it from the teachers who "have" it. Equally, the teachers are therefore no longer required to *apply* their acquired knowledge in teaching but to *supply* it.

Hence, in the contractual scheme of exchange, academic knowledge is not so much a matter of cultivation and maturation as a matter of transaction and levelling. The reality of academic contracts risks cultivating the idea among both students and teachers that a failure to generate knowledge in teaching and learning can be reduced to a failure of the contract and not the inability of students and teachers to cultivate knowledge.

The results of student efforts in terms of tests and papers are therefore increasingly transformed from matters of *re-examination* to matters of *renegotiation* of the terms of contract. It demands rewriting – but not of exams and papers, but of contracts.

In the final analysis, professional academic knowledge is something that must be *hard-won* by the individual as a process of *maturation*. In this light, the very idea of "making it easier" for students to pass through the system, via academic contracts, is counterproductive. With the increased application of such educational principles, both students and teachers in the contractual world of Academic Capitalism are, instead, embarking on a journey of increasing infantilization.

In the most literal sense, this entails, not progression in higher education, but regression.

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# Chapter 14
# Conclusion: On the Verge of Breakdown

**Ylva Hasselberg, Sharon Rider, and Alexandra Waluszewski**

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 whistleblowers, 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 proletarisation 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 Waluszwski'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.

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