

The Future of the European University: Liberal Democracy or Authoritarian Capitalism?

By Sharon Rider

Abstract

This paper examines the prevalent notion that the production of knowledge, academic research and teaching can and ought to be audited and assessed in the same manner as the production of other goods and services. The emphasis on similarities between industry and the academy leads to a neglect of fundamental differences in their aims and, as a consequence, a tendency to evaluate scientific research in terms of patents and product development and colleges and universities in terms of the labour market. The article examines the idea of the free academy, on the one hand, and compares and contrasts it to the idea of free enterprise, on the other. It is argued that the view of the university as a supplier of specific solutions for pre-determined, non-scientific needs (a workforce with skills currently in demand, innovations for commercial partners, justifications for political decisions, etc) undermines the public legitimacy of university science and weakens the fabric of scientific training and practice. The article proposes that the university's main purpose must be to provide a recognized neutral, autonomous agency of rigorous, disinterested investigation and scientific education, which constitutes a necessary condition for an enlightened liberal democracy: an informed, capable and critical citizenry.

Keywords: Academic freedom, basic research, higher education, innovation, Humboldt, research policy, science studies.

The Demise of the Classical University

In a recent article in *Foreign Affairs*, Azar Gat has convincingly argued that there is good reason to question the standard assumption that the inherent desirability of liberal democracy or its supposed economic efficiency constitutes a guarantee of its continued success and proliferation (Gat 2007). To the contrary, he argues, the reason for the failures of autocratic capitalist regimes earlier, as well as the triumph of leading liberal democracies, must be considered also in terms that have nothing to do with form of government, but rather accidents of history, geographical and demographic factors. His conclusion is that authoritarian capitalist regimes such as Russia and China might well prove to be equally or more efficient at producing wealth than liberal democracies, and thereby also possess a strong appeal to developing countries, pose a political as well as economic challenge for established liberal democracies.

This aspect of globalization has already had a palpable effect on the university, one of the most important institutions of liberal democracy. This development has three elements. First of all, the Humboldtian ideal of the unity of research and teaching has been in practice scrapped in favour of a division of labour, the function of which is to produce more efficiently: patents and citations, in the case of research; highly skilled labourers, in the case of teaching. Second, this division of labour is necessary insofar as the university is seen primarily as an economic motor for the region (understood locally for smaller colleges and nationally for the major universities). The classical ideals of *Lehrfreiheit* and *Lernfreiheit*, the academic equivalents to free speech and civil rights in liberal democracies, are eroded as they constitute impediments to achieving the market ideals of efficiency in production and distribution of goods (goods here understood as more engineers and fewer humanists among students, for example; patents and technical applications instead of *Bildung* and basic research.). The goals of New Public Management are achieved through accounting systems devised in the private sector to monitor direct measurable effects. As a consequence, the long-term ideals of education and science (seen as two sides of the same activity) for the betterment of the individual and the society, which does not lend itself to this sort of accountancy, is regarded merely as a failure to produce. Third, to the extent that the university is seen to have a responsibility beyond serving the economic needs of the county or country, this responsibility is interpreted in terms of political ends (the humanities and social sciences can provide, for example, ideological arguments for desired goals: ethnic tolerance, gender equality, sustainable development).

Once more, the value of the university is seen in terms of measurable results, independently of the specific aim of the classical university, its basic mission, in which the value of scientific study was its content, how it was performed, not the results at which it arrived. The university of our day is concerned first and fore-

most with the production of things: degrees, citations, innovations. The classical university was originally conceived as a place where one formed, or produced, a certain kind of person: someone capable of sound judgement in, for instance, political issues. The deterioration of the idea of the university poses a danger to science and to liberal democracy. The risk for science is that it cannot justify itself without recourse to its products, seen in economic terms (jobs for its students, innovations and citations for its faculty). This reduces its aims to those of any actor on the market. At the same time, democracy itself is associated with the market, rather than with a society of informed citizens. The results of the university bereft of its essential mission, in political terms, would be technocratic rule of an uncritical populace of consumers, not a civil society.

It seems to me that one of the main responsibilities of researchers and teachers in the cultural sciences is to take notice of what recent developments in their own backyard, the university, may have for unforeseen consequences beyond the academy. In the words of R.G. Collingwood:

The fate of European science and European civilization is at stake. The gravity of the peril lies especially in the fact that so few recognize any peril to exist. When Rome was in danger, it was the cackling of the sacred geese that saved the Capitol. I am only a professorial goose, consecrated with a cap and gown and fed at a college table; but cackling is my job, and cackle I will. (Collingwood 1940/1998: 343)

The Birth of the Innovative University

In Sweden, an agency was founded in 2001, the name of which is derived from a specific view of the aim and purpose of research: Vinnova, the “Swedish Governmental Agency for Innovation Systems”. In short, the agency was founded with the explicit purpose of promoting an innovations-system approach and cluster-theory in research policy. The agency both supports economically oriented research and promotes a specific set of ideals concerning what constitutes social, economic and intellectual value. The most striking thing about Vinnova is that it is the product of consensus across party lines and throughout different sectors of society as to what science is and should be, a consensus that is all the more striking because it is so deeply problematic.¹

The ideals represented by Vinnova are in no way unique to that agency; rather, that the agency was formed is merely a symptom of the pervasiveness of the agenda of which it is a part (Eklund 2007; Miettinen 2002). One of the most basic assumptions in current research policy, in Sweden as in the rest of Europe, is that there exists an intimate relationship between academic excellence and “innovation”. In fields of research where technical applications have a clear commercial value, such as biotechnology and information science, this assumption poses some challenges, but is nonetheless in harmony with the goals of technical development. (see Bok 2003, pp. 1-17) What is problematic is rather the generalization

from the specific purposes, methods and practices of research and development centres to science as a whole. In short, we need more serious discussion about what it means for the future of science and higher education to eradicate the difference between fundamental research and teaching, on the one hand, and the production of patents and products, on the other, by means of economic policy. In this essay, I will argue that the picture of scientific inquiry peddled by policy-makers in Europe is misleading, and constitutes a direct threat to the welfare of the scientific enterprise as such, and ultimately to the society which is thought to reap its benefits. (There may well also be good reason to question to what extent these ideals are ultimately compatible with the classical liberal notion of free enterprise, but that is another issue. See Svensson 2008):

When one raises the sorts of criticisms that I will be making here, it is common that one is accused of romanticizing or idealizing the free academy; therefore, it must be admitted at the outset that the classical ideals of science associated with the model of the Humboldtian university were, in fact, *ideals* and indeed, as with all ideals worth striving for, rarely if ever realized in full. Yet this is precisely its virtue. Goals that are realizable to such an extent that one can measure with precision how well they are being met are, by definition, not ideals. An ideal is something which guides behavior by not being fully realizable in practice. In point of fact, to replace classical academic ideals with measurable outcomes and results (such as examination frequency or number of citations) is to lower our ambitions - in the name of "excellence".

The ideals associated with Wilhelm von Humboldt in the early 19th century became the blueprint for the (then) new university in Berlin and later many other universities in Germany, the United States, and throughout the world. The Humboldtian ideal is characterized by two essential features. One is the unity of teaching and research. Research and teaching are to be conducted by the same people, as two sides of the same activity. Since lecturers lecture about their research, or alternatively, since researchers explain their research in lectures, teaching is always about ongoing research, its form and/or its content. Thus the Humboldtian university is decidedly theoretical by definition. It is not primarily concerned with practical applications, technical skills or vocational training. The aim of university teaching is to educate and cultivate in a general sense, as distinct from occupational training. The second characteristic of the Humboldtian university is academic freedom. This entails freedom for the professor to decide on which topics to do research and which material to teach. But it also entails the freedom of the student to decide on his own program of study and work at his own pace. There were no standard course plans or employability requirements for classes at the Humboldtian university. That sort of things was rather associated with trade schools.

A more recent formulation of academic ideals is sociologist Robert Merton's statement of the guiding norms for science, called CUDOS, which he saw as the implicitly binding values of the scientific community. They are: *Communalism*, which entails that scientific results are the common property of the entire scientific community writ large; *Universalism*, which means that all scientists can contribute to science regardless of race, nationality or gender; *Disinterestedness*, which demands that scientists' results should not be entangled with their personal beliefs, private interests or political causes. (In short, scientists should have a scientific interest in science, not a personal interest in their findings); *Originality*, an characteristic that was added later on by the physicist and theorist of science John Ziman, states that research must add something new or different to our knowledge and understanding; *Scepticism* requires that scientific claims be exposed to critical scrutiny before being accepted.²

One can interpret both Merton's norms and Humboldt's idea of the university as regulative ideals, insofar as they were thought to express what all serious science has had its aim, whether or not the aims were achieved in practice, either by the individual or the scientific community. What made science science was this set of shared ideals, a kind scientific self-image, as a litmus test for how well we, as scientists and scholars, were working in accordance with our highest ambitions. In this sense, the academy was autonomous, that is, self-regulating.

But since the 1980's, policy in the US and Europe has been concerned with auditing not the scientific value of scientific work, but its economic and political value. Mertonian norms have been jettisoned in favour of a regional, institutional and commercial picture of science, in which it is seen in terms of dubious entities such as the "Triple Helix", "clusters" and "innovations systems". "Collaboration", which formerly had rather distasteful political connotations, has become a *sine qua non* for "excellence". In this respect, the autonomy of science, academic freedom, is seen as constituting a hinder to achieving excellence. The freedom to form research questions is increasingly circumscribed, via economic steering, to the freedom to formulate methods for solving policy-defined problems (assimilation of immigrants, alternatives to fossil fuel, etc.). In higher education, the freedom to develop a course of education is increasingly, again by way of economic incentives, limited to the freedom to design courses that would attract students and meet the labour needs of industry. Politicians and policy-makers have succeeded in this radical transformation of the very notion of science with the enthusiastic support of industry, as well as the engineering community and even a number of labour unions. (Widmalm 2008) The transformation was not based on what we know about scientific discovery and progress from, say, studies in the history of science.

More than mere agreement, there appears to be a sense of urgency in the unending flow of proclamations about the need for basic research to converge with

R&D. In what respect basic research remains basic when its questions are formulated in advance in terms of direct application, patents and/or economic benefits is, however, unclear. To the contrary, these calls are in essence a demand to filter resources from fundamental research and broad academic training to short-term corporate and political interests. Yet if they were to be heeded without reservation, the Swedish university could no longer claim to underwrite the bill of rights signed in 1988 by the vice-chancellors of Europe's universities, the *Magna Charta Universitatum*. The question is how many signatories would be left.

Yet the question has to be asked: what is lost, really, if the university were to become an extended arm of politics and industry? Why shouldn't the idea and practice of science change, along with everything else? What's wrong with prioritizing our scientific interests and concentrating our resources and energies in the direction of perceived needs? In the following sections, I will try to point to possible dangers. I see these as falling into two groups. The one group has to do with the future of science and scholarship as such; the other has to do with the future of a culture in which science as an ideal of non-partisan, disinterested search for knowledge for the benefit of humanity (as opposed to a certain nation, a certain group, a certain set of economic interests) is no longer a cornerstone of civil society.

With regard to the first question, there is good historical reason to reflect critically upon the politically popular portrayal of the classical university as a huge, plodding sauropod that inefficiently consumes enormous resources and is destined to be replaced in the struggle for existence by smaller, quick-footed and more adaptable forms. The first university still in existence, the University of Bologna, was founded in 1088. According to a Carnegie Policy Study, of 66 corporate entities existing between the 16th century and the middle of the twentieth, 52 were universities. No businesses have displayed a similar resilience, a comparable capacity to adapt to change, or to interact with a new society, under new conditions. The ideal of scientific autonomy is arguably an important factor explaining the continuity of the university throughout the upheavals of the last two centuries. If we transform it into the extended arm of industrial policy, we do irrevocable damage to the eco-system of independent, critical thought. The free academy may well be a necessary condition for sustainable development, both in science and in society. In any case, truly groundbreaking research, excellence as a scientific ideal and not an empty phrase to fill with whatever industry or politicians want at the time, is, as the philosopher of science Imre Lakatos has argued, something that shows itself in hindsight. No one has ever succeeded in formulating a sure-fire, risk-free guarantee for scientific fecundity, novelty or reliability or criterion for determining which of these is most important. It seems unlikely that bureaucrats in Stockholm or Brussels are equipped to formulate and prioritize such criteria when philosophers, historians, sociologists and scientists have failed.

As for the role of science in society, it should be noticed that the notion that science can and should be directed in specific ways, on the basis of political and economic goals and interests has been tried at least twice before: in the Soviet Union and in Nazi Germany. It was in response to these that Merton formulated his scientific norms (Gustavsson 2008:18); Merton called Nazi science “anti-science”. The fact that modern research policy is capitalist rather than socialist does not make it less totalitarian, and it does not make it more scientific. Rather, by stressing the need for funnelling funding into economically productive fields, policy-makers are, in the words of the historian of science Sven Widmalm, “in effect making the national system for research into a money-laundering business, transferring tax-payer’s money into support for local industries” (Widmalm 2008: 269). And just as nobody can foretell when and in what context the next great scientific breakthrough will occur, nobody can say for certain what society will be like or will need in fifty or a hundred or two hundred years. If there were a group in a better position than others to analyze and understand social, scientific and historical developments such as to be able to make reasonably informed guesses, it would be historians, political scientists, sociologists and anthropologists. But their research receives precious little funding. (After all, where are the immediate economic benefits or industrial applications?)

The Rhetoric of Free Enterprise and the Free Academy

Science has been seen as holding promise for the realization of many social, political and economic goals since at least the 16th century (Shapin 1996). But rarely, if ever, have the possibilities and potential of research been the source of so much economic planning as today. In the words of the OECD: “In the knowledge-based economy, science and technology and their applications in industry and communications are major sources of economic growth and well-being.” (<http://oecd.org/about/0.2337>) In Sweden, a slew of government-sponsored studies, policy documents, propositions, proposals have been produced, disseminated, discussed, debated and implemented during the last decade which express the ambition to utilize science as an instrument of economic growth. In 2005, the Swedish government presented a research policy proposal, *Research for a Better Life* (*Forskning för ett bättre liv*), with the pronouncement that “in order to realize the vision of Sweden becoming the most competitive, dynamic and knowledge-based economy in Europe, Swedish research must continue to keep up with the world’s best.” (Prop. 2004/05:80: 9) ³ The proposal expresses great confidence in science to deliver technological solutions that will generate jobs for Sweden’s citizens and profits for its industries and businesses. It also explicitly renounces the classical scientific and academic idea that there is or can be a tension between basic, intra-disciplinary science and demand-driven, applied R&D. More recently, in *Re-*

sources for Quality (*Resurser för kvalitet*, SOU 2007:81) and *Research Funding: Quality and Relevance* (*Forskningsfinansiering - kvalitet och relevans*, SOU 2008:30), two government-commissioned reports, the investigators argue for a market-model for university funding, in which the state would no longer play the role of guarantor of basic research that may not be of immediate interest or use, that is, which is not "competitive" or in demand on the open market. Rather, all these documents have in common an emphasis on increased competition between universities, but also between departments, research groups, and even individual researchers. The idea behind increased competition is naturally to promote first-class research, and thereby reap its technological and economic rewards. Thus everyone is in agreement that first-class research is important; if there is room for discussion, it rather concerns how to achieve it.

One standard approach is to play the reasonable middle-ground, and acknowledge that the university has two compatible responsibilities: to supply industry and society with answers to pressing questions, but also to conduct basic research and maintain academic standards of scientific independence and neutrality. In an op-ed article (*Dagens Nyheter*, 20 February 2008), the Swedish Minister of Research, Lars Leijonborg, argues for the importance of basic research for social development, and insists upon the need to raise its status and reinforce its structure.⁴ While the authors of the reports cited above see salvation in the marketplace of science, where the role of the state is substantially diminished and faculty, research groups and universities compete with each other for students and funding, the minister wishes to emphasize the value of basic research and see to it that it receives the resources it requires. That the minister displays concern for the future of basic research would seem to be especially re-assuring at a time when politicians and industry seem to demand almost instantaneous results and solutions for the perceived technical, practical and political needs of the day. Yet one wonders how deeply he has considered what constitutes basic research: in what, if anything, the essential difference between basic research and technical development lies. The answer is not self-evident.

A possible definition of basic research would be that it is merely academic freedom applied primarily to research (rather than teaching). In other words, basic research is research conducted by scientists and scholars, for scientific and scholarly reasons, and not primarily with an eye toward some specific non-scientific end (that is, not intended to be used in non-scientific contexts immediately). Given this definition, one might be inclined to think that basic or free research thrives best in the kind of competitive atmosphere proposed by the propositions and policy documents mentioned earlier. After all, wouldn't successful competition in the free market of ideas be both an incentive and a guarantee of quality and creativity in research? In what follows, I wish to suggest that this common-sense way of formulating the question conceals a number of gravely problematic as-

sumptions concerning the nature of science and the idea of academic training and research.⁵

One problem with the idea that excellent scientific research is best promoted through increased competition is that it implicitly assumes that the issue of quality is tied to production and distribution. Much policy today regards the university as essentially a certain kind of enterprise, the business concept of which is to produce and distribute knowledge as efficiently as possible. The "shareholders", in this case, the Swedish taxpayers via the state, receive "dividends" in the form of increased job opportunities and tax revenues that can be translated into public goods, all of which are expected to be created along with new products and applications (in particular, those designated "innovations"). In order to make production and distribution more efficient, the majority of documents arrive at something like the following: 1) the university system should produce scientific knowledge of high quality; 2) the product (knowledge) should be delivered as quickly as possible to its users (industry, county councils, etc) to be converted into commercial or other applications; and 3) there ought to be a central authority or set of authorities to oversee (1) and (2). In this way, it is thought, the state can guarantee the quality, understood as utility, of the knowledge produced. Concepts such as "quality control", "strategic investments", "trade marking", "cutting-edge research", "target groups", "market adjustment" and the like proliferate in the attempt to find means of *controlling* how academic knowledge is produced and disseminated, to ensure its usefulness. One difficulty, however, is that the usefulness of scientific knowledge in the deepest sense is far more difficult to plan and gage than those outside of the academy (and unfortunately, a fair number within it) seem prepared to acknowledge.

It might well be that this deeper sense no longer has a place in our thinking about the university and its purpose. This discourse of academic excellence constitutes a contemporary textbook example of neo-liberal governmentality, in the Foucauldian sense. The explicit attempt here is to create apparatuses, institutions, agencies, systems and services the aim of which is to inculcate a certain mentality within a population (in this case, university teachers and researchers): we are to see ourselves as free and enterprising, autonomous actors in an open market, and to behave accordingly. Thus the control exercised is intended to create a mentality among academics, a form of intellectual life, not through governance in the sense of the imposition of rules, regulations, laws and mandates, but through structuring the field of academic activity in such a way as to ensure that academics govern themselves in such a way as to attain the desired effect in their behavior. Ideally, we will all think in terms of citations, the international publication market and rankings as the objective goals for, and proof of, our intellectual activity (rather than, say, the search for truth).⁶

To see how this discourse functions, there are certain recurring features of the thinking that permeates research policy in Europe today that should be noticed. Most significantly and pervasively, there is a tendency to ignore or at least belittle the basic difference between the *idea of academic research*, on the one hand, and the aims of demand-driven research, on the other. The idea of the modern university, "the free academy", requires that the scientific investigation and training, which are its unified *raison d'être*, shall to the greatest extent possible be conducted *with no regard to* the extra-scientific preferences, aims and goals of interest groups, political alignments or economic interests. To state the matter paradoxically, the purpose of the university is to guarantee that it will not take into consideration the pressures and demands placed on it by its stakeholders, i.e., those who pay for it and who stand to benefit from its results. A necessary condition for the success of this odd construction is that university teaching and research are seen as professions, whence it would be absurd to demand that their criteria and methods should be assessed or designed by laymen. The whole point of professionalism is that its practitioners are deemed capable of making judgments which those not trained in the profession and deemed competent by its peers cannot. Thus the state pays the university to maintain its neutrality with regard to the science it conducts: the university is expected to strive toward complete independence with regard to how it formulates its research questions, which methods it uses to investigate these questions, and the results at which it arrives. It shall be recalled, as stated earlier, that is only an ideal and, as such, has rarely, if ever, been achieved in practice. Nonetheless, it is this ideal that has guided all serious scientific investigation since antiquity. The idea of business, of "free enterprise", is in this respect the opposite of the free academy. The idea of business is to develop commercial solutions *with regard to* the interests, demands and preferences of the society in which it operates. In business, as opposed to science, the customer is always right.

The first and primary principle in the *Magna Charta Universitatum*, the European universities' bill of rights, 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 intellectually independent of all political *authority and economic power*." (emphasis added).

The results of a study of a certain commercial product can be problematic for certain economic interest groups; the results of a study on certain cultural patterns may be offensive to certain ideological alignments; the results of a study of certain policy decisions can stir political agitation, and so forth. But such reactions are, or should be, of no relevance, academically speaking. The point of publicly financed, state-secured appointments of university faculty after scientific assess-

ment is to guarantee that academic researchers and teachers should be able to render results publicly, “speak truth to power”, without fear of reprisal. Only with this guarantee in place can the university assure that it strives to meet the needs of *all* of society. This is the crucial part of what it means for it to be autonomous, that is, independent of all political and economic interests. This is the quintessence of the idea of science, of the mission of university research and teaching. This is how it *qua* university can best serve society at large.

In free enterprise, the opposite applies. The extent to which a business fulfils its idea, i.e., meets the needs of the society in which it functions, is *never* an internal affair. Rather, the value of what it does is by definition something decided by others, outside of the business. Suppliers decide whether or not they deem the company credit-worthy, sufficiently interesting from the point of view of development, or production, or logistics. Customers, other companies or individual clients, decide if the company produces goods and services that fit with their respective financial structures and needs. How well the company succeeds is thus a matter of what potential and existing clients and customers think of their way of producing and delivering their product, it is the clients and customers who determine the value of what the company does (Håkansson & Waluszewski 2007): this is the nature of competition in free enterprise. It is here that we must notice that what applies to the market cannot apply to the university without changing essentially and irrevocably its meaning and mission. If science is tailor-made to meet the needs of a specific clientele, if its value is a matter of popularity or public opinion, then it has no specific task *qua* university.

One might compare academic freedom with freedom of speech in this respect. The aim of legislating the latter in liberal democracies is to ensure the right to speak out, even when, or rather especially when, what one wants to say is precisely something that others do not wish to hear. Civil rights of this sort were originally formulated as a necessary safeguard against authoritarian attempts to stifle individual rights; in other words, the assumption behind the establishment of rights is the recognition that there exists a tension in society between different interests, necessitating laws that guarantee this right. Without this pressure, such legislation would be meaningless. One might go as far as to say that the legislation of such rights in itself constitutes a recognition that they are always inevitably under siege. Similarly, the point of a special article in national law guaranteeing academic freedom for teachers and researchers at the university is to guard against the exploitation of university teaching and academic researchers by interests outside of the university (political interests, economic interests, ideological interests, etc). It is this tension between the ideal of the university as a neutral agency of research and teaching and the temptation on the part of various elements in society to use it for its own ends that gives meaning to all references to academic freedom such as formulated in the *Magna Charta*. If we fail to recognize this es-

sential tension, academic freedom becomes an empty phrase, an ornament to make university research more prestigious and classy, a sentimental tribute to the heydays of the university as an indispensable institution for a civil society.

The Industrial University

How can the university interact with society and fulfil its function without jeopardizing internal criteria of scientific quality? The first and most crucial step is to recognize that there exists a tension between the idea and ideals of scientific investigation, on the one hand, and the economic, industrial function of the university, on the other. This tension between the demands of science and societal and political expectations has always existed and, one may hope, always will. It's a sign that research and teaching are bold and vital, that the open, critical quest for knowledge is still the guiding principle of the academy. If this essential tension is suppressed, there is simply no reason for there to be universities. If "the free pursuit of knowledge" is in fact allied with corporations or organizations with an interest in steering the direction of research, then it cannot be the economic responsibility of the taxpayer or the moral responsibility of the citizen to support it.

Two possible objections to the claims above come to mind. First, don't we, the academic community, have a responsibility to our fellow citizens to be engaged in the problems of our day? Shouldn't we do what we can, with our special competence as scientists and scholars, help to do something to stave global warming and reduce its consequences, cure illnesses and save lives, contribute to a healthier lifestyle in the industrialized world, investigate the causes of war, criminality and poverty and propose methods of reducing them, and so forth? Is it not our responsibility to do our share, especially given that the European university is publicly financed? The short answer is, naturally, yes. But this is only to say that the knowledge we produce should be made available and put to use when and where it can be used. The question of how it is put to use, when it should prove useful, to whom and in what circumstances is not something that we can foretell, and it is not part of science as science, but rather of science seen primarily as technological development.

A second objection is that all references today to the Humboldtian university are merely nostalgic; the university has *de facto* been integrated into a political economic system from which it cannot remain separate without serious damage, if not outright destruction, of both. But a critique of present need not be interpreted as a call for a return to the past; as Nietzsche so wisely pointed out, man is not a crab. There is no return to Humboldt. What we can do, however, is recall the spirit, not the letter, of Humboldt's reforms. In the aftermath of the Napoleonic wars, Humboldt saw the need to reform the university, not only administratively, but in its very conception. His reforms were intended to make the university

something of use to mankind by entrusting its functions to the scientific spirit of its faculty and the diligence of the students. Vocational schools, he thought, were almost damaging to students, by depriving them of the possibility of widening and deepening their understanding at too early an age. This is an important point, because the pressure toward the “vocalization” of the university is seemingly ever-present and nearly irresistible. This following remarks, written over a hundred years ago, are hauntingly perspicuous as a description of the contemporary university:

But the present age is, as aforesaid, supposed to be an age, not of whole mature and harmonious personalities, but of labour of the greatest possible common utility. That means, however, that men have to be adjusted to the purposes of the age so as to be ready for employment as soon as possible: they must labour in the factories of the general good before they are mature – indeed so that they shall not become mature – for this would be a luxury which would deprive the “labour market” of a great deal of the workforce[...] Believe me: if men are to labour and be useful in the factory of science before they are mature, science will soon be ruined just as effectively as the slaves thus employed too early. I regret the need to make use of the jargon of the slave-owner and employer of labour to describe things which in themselves ought to be thought of as free of utility and raised above the necessities of life; but the words “factory”, “labour market”, “supply”, “making profitable” and whatever auxiliary verbs egoism now employs, come unbidden to the lips when one wishes to describe the most recent generation of men of learning. Sterling mediocrity grows even more mediocre, science ever more profitable in the economic sense. (Nietzsche 1874/1999: 99)

By applying economic criteria to scientific thinking, the discourse of academic excellence has actually introduced a new concept of quality (namely, quantity), whereby actual academic quality in scholarship and instruction are diminished in the service of mass production (of degrees, citations, “qualified labour”, etc). What we need to do now is re-conceive how the university can fulfil its mission, let us call it the mission of intellectual freedom (as distinct from freedom of choice in the economic sense), in our day. Humboldt’s problem situation is not ours. But we can learn from how he created something new (in relation to the Church, the State, the Napoleonic laws, etc). In the same way, we can learn something from Merton’s critique of Soviet and Nazi science, even if we do not subscribe to his CUDOS as relevant or accurate today. We can analyze our own situation, in the spirit of critique and self-critique, the basic requirements of enlightened thinking.

In “The Age of the World Picture”, Martin Heidegger defines reflection as “the courage to make the truth of our own presuppositions and the realm of our own goals into the things that most deserve to be called into question.” (Heidegger 1938: 115) In the essay quoted, he goes on to reflect, in the aforementioned sense, upon the notion of science and links it, in our day, with the notion of research (as distinct from the *doctrina* and *scientia* of the Middle Ages, and from the Greek *episteme*). One of the essential characteristics of modern research, he says, is that

the extension and consolidation of the institutional character of the sciences secures methodological unity and objectivity. Thus science becomes an ongoing activity or industry (*Betrieb*), in two senses. In the first sense, which he seems to think is the proper and adequate sense for scientific inquiry, science comes into its own: “The scholar disappears. He is succeeded by the research man who is engaged in research projects. These, rather than the cultivating of erudition, lend to his work its atmosphere of incisiveness. The research man no longer needs a library at home. Moreover, he is constantly on the move. He negotiates meeting and collects information at congresses. He contracts for commissions with publishers. The latter now determine along with him which books must be written.” (Heidegger 1938: 124). This might sound critical, but Heidegger contrasts this sort of research, which he finds in the natural sciences but also in historiographical and archaeological research, with disciplines that “still remain mired in mere erudition” (the humanities). He remarks further that to the extent that modern researchers take seriously the actual form of their science, the more ably and willingly they will offer themselves, as a collective, to the common good and “return to the public anonymity of all work useful to society.”

But there is another sense of industry, that of “mere business”, rather, mere “busyness” (*des blossen Betriebs*) or “bustle”. In this kind of ongoing activity, science forgets its point and purpose, leaving it behind as a given; it does not bother with the confirmation and verification of its results and calculations of these, but “simply chases after such results and calculations” (Heidegger 1938: 137). Thus, he argues, precisely because scientific research must be an ongoing activity, because its self-perpetuation is its essence, “mere business” must at all times be combated: “the more completely research becomes ongoing activity, and in that way mounts to its proper level of performance, the more constantly does the danger of mere industriousness grow within it. Finally, a situation arises in which the distinction between ongoing activity and busyness not only becomes unrecognizable, but has become unreal as well.” (Heidegger 1938: 137). This is the situation we find ourselves in today, of which I will offer examples in the next section.

Science in the Marketplace and the Republic of Ideas

The tension between the university’s internal criteria and demands and desires from actors from without (the state, political groups, the church, etc) has always existed. We have every reason to hope that it will continue to exist. It should be seen as something positive, a clear indication that the academy is alive and well; that research and teaching are healthy, vigorous and unafraid; that we are industrious and not merely busy. It means that the serious, open, critical quest for knowledge and understanding of the world, regardless of whatever debate to

which it might give rise, is still the mission of the university, and the call of its faculty. If this tension is stifled, the university no longer has a mission that distinguishes it from any other institution that conducts teaching or training (such as consultancy firms or trade schools) or research (pharmaceutical companies, the automobile industry, the information technology industry). Why should taxpayers finance a university when in point of fact, its employees are not servants of the people, but allied with specific interests?

What is worrisome is that representatives for the academy, those responsible for its organization and financing, neglect, conceal or even explicitly reject that this tension between the academy and interests outside of it is something requiring vigilance. They seem not to notice, or not to care, that “collaboration” with industry, for example, logically requires that there be two distinct entities: a university, on the one hand, and a company, or companies, on the other. The more entangled the two are, the less reasonable it is to call the phenomenon “collaboration”. The university becomes rather a supplier of resources (labs, personnel, equipment) for industrial development. Yet it has become increasingly common to embrace this vision as the point and purpose of the university.

A recent Swedish example is the so-called Radio Center Gävle – Center for Radio Frequency Measurement Technology, a collaboration between Gävle University, the Royal Institute of Technology (KTH), Gävle County Council and Ericsson Radio Systems and over twenty other corporations. According to Claes Beckman, Professor of Electronics and one of the key figures at the centre, collaboration is and should be the highest priority: “The college must collaborate, collaborate, and collaborate in order to supply the region with suitable competence.” (Wall 2008: 4-5). Beckman argues that research is not a goal in itself, nor a primary goal, for a scientific community such as a university. “Basic research” is, in this sense, a myth. Without collaboration, there is no science: “You can’t read your way to knowledge. You have to do it yourself, be where it’s happening, in order to learn.” Further, research is always just a means to an end. Research must contribute to regional development, and researchers ought to work primarily for the benefit of the region (in this case, Gävleborg county). In his view, the aim of the university is to attract young people, and give them training that will lead to good jobs and induce them to settle down in the region. Moreover, the college should see to it that “they have a good time together, enjoy themselves, move in together and raise a family: that’s economic growth.” The Radio Center laboratory, housed in Ericsson’s Gävle headquarters, is about as close a collaboration as one can imagine, and is conceived to achieve these ends. Instruments are purchased with funding from the corporations involved, the city and county, and the university itself. Funding for research comes from the various research councils and agencies, which in turn rely heavily and in some cases exclusively on public funding. According to Beckman, seven eighths of the centre’s budget is externally

financed. (The various techniques and instruments developed are not publicly owned.)

Whatever one thinks of such collaborations, it is disturbing that a representative of the academy publicly proclaims that no valuable knowledge can be derived “merely from reading”; that the production of knowledge should be geared toward a specific community with specific interests, and not toward increasing the common store of scientific insight; that the scientific enterprise is just a means towards achieving political and economic ends.

To call into question the view that the university need not aim at universality, that knowledge is always and everywhere a means and never an end in itself, or that there is no value in purely “theoretical” understanding cited above, is not to suggest that the “old academy” lived up to its stated ideals of universality, integrity and intellectual openness and vitality. One might argue, for instance, that it as a rule regularly fails to live up to principle 3 of the *Magna Charta*: “Rejecting intolerance and always open to dialogue, the university is an ideal meeting-ground for teachers capable of imparting their knowledge and well equipped to develop it [...]” We all know that the university is not the boiling cauldron of critical thinking from different points of view that it ought to be. Powerful alliances between different networks, disciplines and research groups will often employ the rhetoric of scientific standards and academic consensus to stifle novel, dissident or simply different kinds of research, rather than engaging them in an open critical discussion. In practice, a dogmatic, self-satisfied scholastic orientation can enjoy an extremely high academic standing within a discipline by virtue of coalitions and strategies, rather than by virtue of intrinsic value. Here there is most certainly room for self-criticism and self-examination. There are good reasons why students as well as administrators and policy-makers want to hold the academy accountable. The problem is that the means that have been introduced are likely to have the opposite effect. Citations in highly ranked journals, for instance, tend to confirm and reinforce standard models, mainstream theories and conventional methods. It often takes decades for novel ideas or bold hypotheses to receive general recognition. (See Altbach (2006).

Thus to defend the ideal of the classical university, the ideal of the unity of teaching and research for the good of mankind, rather than of this region or that region, this county or that country, is not to defend the old, pompous academy with its robes and arrogance and class privileges. That university is, at any rate, quickly dying off. It became sclerotic, with its senile anecdotes about legendary lectures by great men fluent in thirty tongues, heated debates between Professor X and Privatdozent Y at the infamous seminar in March, 1958, etc. It became a dusty relic of itself, a collection of dead forms, emptied of vitality and meaning. Thus it was seen by many, perhaps especially the students, as something that no longer commanded the respect that it assumed it deserved; it became in the eyes

of many, and with some justification, simply ridiculous and unnecessary. But this is simply to say that it no longer could live up to its own ideals, that these ideals were no longer the principles and values by which its teachers and researchers lived. Science as a calling was reduced to science as a paid hobby and, by the 1960's, the students sensed it. But the modern bureaucratized university, with its perpetual assessment exercises, economic guidelines, strategy documents and the like turn the republic of ideas into a homogenous, international conglomerate whose employees are just that, traders in the marketplace, rather than citizens of the republic of ideas (with the freedom and responsibility, the rights and duties, that citizenship entails).

The strategies promoted by policy-makers and university administrators (and as we've seen, even certain members of the professoriat) assume that we can know in advance where science is going, what ideas and which methods will "pay off", either scientifically or economically, in the long run. In this respect, the policies and strategies themselves do not exhibit the characteristics of being "open to dialogue" or committed to stringent testing of its assumptions. To the contrary, they have rather the character of articles of faith, as emphasized by Nobel prize-winner Arvid Carlsson and Swedish MP Finn Bengtsson:

[...] the mantra among today's professional pundits concerning the organization and financing of research, constantly stressing the notion of "strong research environments", bears witness to a lack on insight into and reflection about how unique research results and their applications actually arise [...]. It is most likely the case that the presence of a "strong research environment", the concept of which usually implicitly includes the need for a top-down organization and standardization of thought, to the contrary could have killed the further development of ideas of innovative character [...]. When this sort of idea is first hatched, it is by one or a few people and hardly by a collective research-strong environment. Often enough, the idea itself is at that point in a far too delicate phase to overcome resistance so that the thought can be thought through and come to the point where convincing evidence for the thesis can be generated and development toward useful applications can take place. (Carlsson & Bengtsson 2008)

In short, strategy models benefit neither innovative scientific thinking nor social needs. Basic research, on the other hand, unencumbered by managerialism, is a necessary pre-requisite for all technical developments, applications and innovations. As Tord Ekelöf, Professor in Elementary Particle Physics at Uppsala University has pointed out: "Who experienced the need to be able to generate electrical power and distribute it in society before the fundamental laws of electricity were discovered? [...] Who formulated the need for radio or television before the laws of electro-magnetic radiation were discovered? [...] The needs arose, or could be formulated, first after basic research had come so far that a technical development could be discerned." (Uppsala Nya Tidning, 10 March 2008). Examples of this kind proliferate in the history of science.

A particularly telling example of how basic research can be radically transformed into useful applications can be gleaned from the pre-history of information

technology. Frege and Russell, both philosophers and logicians, and Hilbert, a mathematician, worked independently of each other at the turn of the twentieth century, each concerned with establishing the basic foundations of mathematics. This sort of project belongs properly to philosophy, i.e. the project was purely theoretical. Neither Hilbert, nor Frege nor Russell were concerned with technical solutions for industry, or even primarily with applications in mathematics. But as a matter of historical fact, a result of this project was a highly useful discovery: formalisation. This discovery made possible the development of formal languages, recursion theory and algorithm theory, which in turn form the foundation of computer technology. Frege and Russell did not have World of Warcraft or Ebay in mind when they attempted to work out the foundations of mathematics. They were engaged in philosophical reflection on mathematics, and their project, their aim, was philosophical. Thus in retrospect it is possible to identify a concrete historical link between theoretical philosophy, on the one hand, and all commercial solutions developed within the information technology industry, on the other: but who will provide society or industry with knowledge the use of which cannot be determined or assessed in advance, if academic knowledge production is steered towards what seems beneficial from the vantage point of short-term interests and goals?

Perhaps the most impressive example of the gap between motives and expectations, on the one hand, and actual applications, on the other, is that of classical mechanics. For Newton, the point of the study of physics was to achieve clarity with regard to the mechanisms of nature. In other words, Newton's studies were devoted, in the first instance, to "natural philosophy". One must consider his achievement to be a paradigmatic case of "basic research" in the deepest sense: Newton wanted to determine the essential mechanisms of nature, once and for all. The later discovery of the theory of relativity showed, however, that the question was not resolved once and for all. Newton's theory did not constitute the ultimate theoretical description of nature as he had hoped. But it did turn out to be one of the most powerful scientific tools ever invented, and showed itself to be useful in applications which Newton could never have imagined. It is rather characteristic for the great scientific discoveries that the greater the discovery, the less it was understood at the time how it could be used. That, if anything, is a strong utilitarian argument for allowing researchers to formulate their own questions and fumble along with their own attempts at answering them. No citation index in the world, however sublimely contrived, will tell us in advance where to find the next Newton. To the contrary, the more we try to control and predict scientific innovation, the less likely that our science will be capable of producing a Newton.

The risk Europe is taking in trying to control what knowledge is produced, where and when, is that the kind of research that is not deemed marketable, relevant, useful, tactical, desirable or interesting just now simply won't occur. In the

long run, we will lose many great opportunities for scientific discovery. We will lose potential gains, both economically and scientifically, if we are not willing to take risks. In science as in sports, there is always uncertainty, a risk of failure: no pain, no gain. The majority of new businesses fail after the first year, the majority of new commercial inventions never find a use, but end up in a *curiosa cabinet*. How is it that something that neither scientists nor businesses are capable of determining in advance is something that research-policy administrators can so confidently plan and control?

The examples of the philosophical foundations of E-bay and Newton's metaphysical concerns are not pulled out of a hat. They meant to point to a very serious issue having to do with the status and future of the humanities and social sciences. The university has a mission to support and maintain different scientific traditions, to keep different ways of seeing, studying and understanding our common world alive. A number of these disciplines have grown out of intellectual traditions stretching back a millennium or more, as have a number of the classical disciplines within the natural sciences (such as mathematics and physics) and the professions (law and medicine). In this context, what is to be supported and maintained are not merely "competences" or "areas of expertise", that can be achieved through strategic investments or political directives. Rather, the disciplines manifest a way of thinking that has taken generations of scholars and scientists to evolve. Nor is it a matter of practical knowledge that is directly tied to the labour market or societal needs. Naturally, it does happen that research and teaching in these subjects happens to be directly useful or in demand in some profession or commercial context; in such cases, there is very good reason to make strategic investments. But such considerations are not what have kept these disciplines alive over the centuries.

What is it then that constitutes the core of research and teaching in disciplines where the utility of the subject is not self-evident? What is the difference between science as a calling and science as a career? The answer has to do with the attitude one takes to one's subject matter; this is where Humboldtian ideals and Mertonian norms come in. The scientific attitude is one of a personal interest in and commitment to a subject matter or a research problem combined with the conviction that there is an intrinsic value to this form of knowledge being kept alive and available to future generations of researchers, teachers and students (See Rider 2007b).⁷ In other words, the goal of scientific thinking is its own further perpetuation. Science, like virtue, is its own reward. The scholarly attitude can be characterized as a sense of duty to see that a particular academic culture, its scientific values, scholarly norms and intellectual standards as much as its objects, theories and methods, continue to develop and be related to a new world and a future science with new challenges and new problems. It is this commitment and this conviction that keeps science going, especially the cultural sciences, despite constant

intervention and control by administrators and policy-makers and ever more meagre resources for teaching. If this commitment and conviction is lost, we will lose with it intellectual traditions and scientific domains which we will not be able to transmit to future generations. History has shown that traditions and cultures are destroyed much more swiftly than they are built. And what is lost here is not something that shows itself in the instant, but rather in what we will be capable or incapable of, as a society and as a culture, as citizens and scientists, for many years to come. And this not only in terms of inventions that will arise or applications that will never come about, but in what sort of society we will have as a result of the teaching the next generation of doctors, lawyers, engineers, administrators, lawyers, teachers, psychologists, politicians, economists, journalists and ministers, as well as researchers, come into contact with during their years at the university.

Change and renewal are important, and nothing says that they must stand in conflict with the idea of science. To the contrary, internationalization, cooperation with organizations and pursuits outside the university, etc. are an important part of the evolution of science, and need not threaten its autonomy. The free academy can even be an extremely important factor in attaining societal goals, *precisely because teaching and research are conducted on the academy's own terms*. From this point of view, universities and researchers should most certainly be encouraged in their attempts to relate their activities to the world in which they find themselves. This is what it means for the university to be a vital institution. But if we really want to ensure quality in research and teaching, we should preserve its integrity so that, in the best-case scenario, it maintains a continuity and a tradition that guarantees scientific development not just in ten or twenty years, but in fifty or a hundred, when a new political rhetoric, other economic models and different educational policy trends prevail.⁸

Sharon Rider is Associate Professor of Theoretical Philosophy, Vice-dean of the Faculty of Arts at Uppsala University, and a research associate at Uppsala University Science and Technology Studies Center. She has taught and written on various aspects of the relationship between theoretical conceptualization and practice.

Notes

- 1 The article uses the Swedish university as its primary example, but parallels can be found throughout the European Union as well as North America, Australia and New Zealand. The UK, for example, pioneered the use of metrics in the Academic Assessment Exercise already in

- 1988 (interestingly, professional societies in England have for the first time issued criticism of the practice this year).
- 2 See Merton (1973) and Ziman (2000).
 - 3 "För att förverkliga visionen att Sverige skall bli Europas mest konkurrenskraftiga, dynamiska och kunskapsbaserade ekonomi måste svensk forskning fortsätta hålla världsklass."
 - 4 "Regeringen prioriterar medicinsk forskning" ("The Government Prioritizes Medical Research").
 - 5 An indication that the minister of research did not actually understand what it was that he was defending in his defence of basic research was his reply to an op-ed article appearing in *Svenska Dagbladet* which criticized the government's research policy (SvD, Brännpunkt, 10 November 2008). Leijonborg responded that the "opposition" between basic research and innovation policy was "counterproductive", a common viewpoint among research policy-makers. (SvD, Brännpunkt, 14 November 2008). But why would the European university chancellors who countersigned the *Magna Charta* insist so stubbornly upon such a "counterproductive" opposition, namely, the boundary between sovereign basic research and research steered toward innovation? The insistence issues from the recognition that as soon as research is steered by interests outside of science, it ceases to be science. Dirigisme with regard to what research will render which innovations may well be desirable from a politician's point of view, but it is not at all clear that it works (SvD, Brännpunkt, 24 November 2008).
 - 6 I am thinking here of course especially of Foucault's essays in *The Foucault Effect: Studies in Governmentality* (1991) as well as *Technologies of the Self: A Seminar with Michel Foucault* (1988).
 - 7 It would behove both research administrators and even members of the academy to remind themselves of the characteristics of science as vocation, especially as articulated by Max Weber in his classic "Science as a Vocation" (Weber 1946).
 - 8 Parts of the article have appeared, in slightly altered versions, in *Research Europe*, 4 September 2008 ("Ivory Trade") and 13 November 2008 ("Innovation's Debt"). A Swedish article with the same themes appeared originally in *Kulturella perspektiv*, Nr. 2, 2008 under the title "Nytta av den akademiska friheten" ("The Utility of Academic Freedom"). I would like to thank Steve Fuller, Sverker Gustavsson, Ylva Hasselberg, Alexandra Waluszewski and the participants in the Higher Seminar in Philosophy at Södertörn University College for inspiration, information and critical discussion.

References

- Altbach, Phillip (May 8, 2006): "The Tyranny of Citations", *Inside Higher Education*.
- Bok, Derek (2003): *Universities in the Marketplace: The Commercialization of Higher Education*, Princeton: Princeton University Press.
- Carlsson, Arvid & Finn Bengtsson (6 April 2008): "Starka forskningsmiljöer tar död på nytänkandet" ("Strong Research Environments Kill Innovative Thinking"), *Dagens Nyheter*.
- Collingwood, R. G. (1940/1998): *An Essay on Metaphysics*, Rex Martin (ed.), Oxford: Oxford University Press.
- Ekelöf, Tord (10 Mars 2008): "Grundforskning formar framtiden", *Uppsala Nya Tidning*.
- Eklund, Magnus (2007): *Adoption of the Innovation System Concept in Sweden*, Uppsala: Uppsala Studies in Economic History 81.
- Foucault, Michel (1991): *The Foucault Effect: Studies in Governmentality*, G. Burchell, Colin Gordon and Peter Miller (eds.), Chicago: University of Chicago Press.
- Foucault, Michel (1988): *Technologies of the Self: A Seminar with Michel Foucault*, L. Martin, H. Gutman and P. Hutton (eds.), Amherst: University of Massachusetts Press.
- Gat, Azar (July/August 2007): "The Return of Authoritarian Great Powers", *Foreign Affairs*

- Gustavsson, Sverker (19 November 2008): "Metrics, economic models and the advent of neo-Bernalism", *Research Fortnight*.
- Heidegger, Martin (1938/1977): "The Age of the World Picture", W. Lovitt (trans. & ed.): *The Question Concerning Technology and Other Essays*, New York: Harper Torchbooks.
- Håkansson, Håkan & Alexandra Waluszewski (2007): "Economic Use of Knowledge", Håkan Håkansson (eds): *Knowledge and Innovation in Business and Industry: The Importance of Using Others*, Oxford & New York: Routledge), 1-21.
- Leijonborg, Lars (20 February 2008): "Regeringen prioriterar medicinsk forskning" ("The Government Prioritizes Medical Research"), *Dagens Nyheter*.
- Leijonborg, Lars (14 November 2008): "Klokast att kombinera forskning med tillväxt", *Svenska Dagbladet*.
- Merton, Robert (1932/1973): "Science and the Social Order", Norman Storer (ed.): *The Sociology of Science: Theoretical and Empirical Investigations*, Chicago: University of Chicago Press.
- Miettinen, Reijo (2002): *National Innovation System: Scientific Concept or Political Rhetoric?*, Helsinki: Edita.
- Nietzsche, Friedrich (1874/1999): "On the Uses and Disadvantages of History for Life", *Untimely Meditations*, D. Breazeale (ed.), R.J. Hollingdale (trans.), Cambridge: Cambridge University Press, p. 99.
- Rider, Sharon (4 September 2008): "Ivory Trade", *Research Europe*, 7-8
- (13 November 2008): "Innovation's Debt", *Research Europe*, 7-8
- (2007a): "Nytta av den akademiska friheten", *Kulturella perspektiv*, Nr 2, 2008, 29-35.
- (2007b): "Om medel och mål i humanvetenskaperna", Sharon Rider and Anders Jörnsten (eds): *Reclaim the Science! Om vetenskapens avakademisering*, Stockholm: Gidlunds förlag.
- Shapin, Steve (1996): *The Scientific Revolution*, Chicago: University of Chicago Press.
- Svensson, Lisa Emelia (2008): *Normerande idéparadox – en studie av tillväxtpolitikens intertextualitet och dess samhällliga innebörd* (Discourse Analysis of Innovation Policies for Economic Growth – Its Consequences and Social Implications), Gothenburg: Bas Publishers.
- Wall, Ove (Nr 8, December 2008): "Radiocenter i Gävle ska bli bäst i världen – annat är inte att tänka på", *Högaktuellt—Personaltidning Högskolan i Gävle*.
- Waluszewski, Alexandra, Ylva Hasselberg and Sharon Rider (10 November 2008): "Vetenskapens guld till salu", *Svenska Dagbladet*.
- Waluszewski, Alexandra, Ylva Hasselberg and Sharon Rider (30 November 2008): "Kvacksalveri att i förväg peka ut nyttig forskning", *Svenska Dagbladet*.
- Weber, Max (1919/1946): "Science as a Vocation", *From Max Weber: Essays in Sociology*, H.H. Gerth and C. Wright Mills (eds.), New York: Oxford University Press, 129-156.
- Widmalm, Sven (2008): "History of Science in the Age of Policy", Marco Beretta, Karl Grandin & Svante Lindqvist (eds): *Aurora Toralis: Studies in the History of Science and Ideas in Honor of Tore Frängsmyr*, Sagamore Beach, MA: Science History Publications, 259-275.
- Utbildningsdepartementet, Prop. 2004/05:80, *Forskning för ett bättre liv*.
- Utbildningsdepartementet, (SOU 2007:81): *Resurser för kvalitet*.
- Utbildningsdepartementet, (SOU 2008:30): *Forskningsfinansiering – kvalitet och relevans*.
- Ziman, John (2000): *Real Science: What it is and What it Means*, Cambridge: Cambridge University Press.