



HAS ACADEMIC FREEDOM SURVIVED?

– AN INTERVIEW STUDY OF THE CONDITIONS FOR RESEARCHERS
IN AN ERA OF PARADIGMATIC CHANGE

LI BENNICH-BJÖRKMAN

Högskoleverkets rapportserie 2004:22 R

 **HÖGSKOLEVERKET**
National Agency for Higher Education

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Preface

Do researchers feel that they enjoy academic freedom today and if so, how do they define this freedom and what factors do they feel restrict it? These are some of the engrossing and important questions raised by the author of this report.

The study on which the report is based forms part of the National Agency for Higher Education's endeavours to focus attention on issues that concern the conditions that prevail for research and teachers and researchers in higher education in Sweden. The National Agency has already published a study entitled *Akademisk frihet – en rent akademisk fråga? (Academic Freedom – a purely academic question?)* (National Agency report 2001:21 R).

This report has been written by Li Bennich-Björkman, a research fellow at the department of political science at Uppsala University and is based on interviews with 17 researchers. The study was commissioned by the National Agency. The aim of the study was to reflect how changes such as modifications of the system of providing funding for research and the expansion of higher education affect circumstances for researchers with regard to the concept of "academic freedom". Bennich-Björkman's discussion centres on a number of provocative conclusions, for instance that the current method of funding research is more likely to engender conformity and uniformity than originality, independence and autonomy.

The National Agency hopes that this report will be able to provide a basis for continued discussion of the current conditions for researchers and teachers. At the same time, as the author suggests, I consider this study to be a pilot study for continued research. Here the focus is on the freedom of researchers and their research. It would also be desirable in the future to examine what bearing the concept of academic freedom has on teachers and on programmes. Li Bennich-Björkman's report therefore provides not only very interesting reading in itself but also an excellent basis for continued research. The National Agency intends to continue to study the important issue of academic freedom.



Sigbrit Franke
University Chancellor

Summary

Swedish universities are being shaken by two revolutions. One is a radical change in the way research is funded, the other is increasingly powerful emphasis on the teaching role of the universities. Since the beginning of the 1990s, university researchers in Sweden have been facing a dilemma. The financial responsibility for research has progressively been assumed by external agencies – including research councils – and these have, to a very great extent, had little hesitation in setting their own priorities about what areas or directions research should take, and in what kinds of setting. This has been combined with the expansion of teaching commitments, not least in undergraduate programmes, so that at the same time it has become less usual for university posts to provide scope for research. This raises questions about what kind of future the research universities can expect as organisations. This development is not restricted to Sweden but is international.

This interview study examines what effects these radical institutional changes have had on the key figures in the system – the researchers themselves. It is a pilot study based on 17 in-depth interviews with researchers in various disciplines, different posts, active either at an ancient university (Uppsala) or a new one (Örebro). Between May and September of 2003 interviews were carried out with ten professors, three senior lecturers, two post-doctoral fellows and two researchers on project posts, working in the humanities, social sciences, medicine and the natural sciences. They were asked about their view of the content of academic freedom, on the current prospects for its survival, on the effect of institutional structures on the content of research and on the research process as such.

There are greater similarities in the way the current situation is assessed in the various disciplines than differences. These can be found mainly with regard to what motivates research and the driving forces behind it, with the most thoroughgoing classical curiosity-driven researchers in the natural sciences. The results suggest that the institutional changes, not least in the way the funding system is organised, are already tending to have an impact on how individuals act and think, while at the same time the value of academic freedom still thrives in the research community as a whole.

Several of the researchers consider academic freedom to be a central value in university research. If it is understood to mean the right to publish and draw conclusions freely without having to think twice about who will benefit or not, and as the right for researchers to choose their problems and methodologies themselves, it is what distinguishes academic research from industrial research, for instance. One of the conclusions is that this freedom also guarantees disciplinary breadth and creativity, as it is seldom possible in the planning to predict what will turn out to be useful or fruitful.

Is academic freedom in the universities under threat? The conclusion is that direct control is an unknown phenomenon. In order to carry out research, however, resources are required and if these cannot be provided through posts and faculty allocations, researchers are totally dependent on gaining the backing of external sources of funding. The researchers devote a striking amount of their thinking and energy to tactical considerations, planning and reflecting about raising funds. Increasingly, the current practice of the funding agencies is to give priority to different problem areas, which imposes greater social direction and with it a shift from the influence of researchers that ultimately sustains academic freedom. What many consider particularly unfortunate is that the research councils, too, are “earmarking” the relatively limited resources at their disposal.

It is mainly those working in the natural sciences and medicine who assert that this system poses a threat to the breadth and long-term perspective of their research. One prerequisite for basic research is the ongoing development of expertise over a long period. On the other hand, the current funding system encourages “short” projects, in terms of time, and giving priority to different areas leads to discontinuity. This has an impact on what research is capable of and there is a risk that areas in which expertise should be maintained will be left “unpopulated”.

In all the disciplines, it is pointed out that the system engenders conformity and uniformity, the very opposite of the values that are officially espoused in research contexts such as originality, independence and autonomy. In signalling what they consider to be important, the funding agencies are stimulating flock behaviour and modishness.

The erosion of academic freedom and the increasing social direction is considered to have had the greatest impact on the classical curiosity-driven researchers – those who were drawn to research by the urge to find things out, attracted by the unpredictable. They are most often found working in the natural sciences and medicine.

Furthermore, departments identify themselves, particularly in the new universities, in terms of their undergraduate teaching, despite individual ambitions to combine research with teaching.

Finally, it is pointed out that institutional circumstances always, in the long run, influence both the behaviour and values of individuals. The institutional signals that are being broadcast to the universities do not coincide with the values that many of us believe help to advance research: originality, non-conformity, autonomy and scope for the long-term development of knowledge. Values like these must be endorsed by institutional solutions – not least when research posts are becoming the rule rather than the exception at universities. The current funding system expresses great lack of faith in the inherent power and dynamism of the principle of academic freedom and at the same affirms exaggerated confidence in the possibility of both predicting and finding rapid solutions to the mysteries of life and the universe. In the long run this will be unfortunate for research.

Introduction

Europe's universities are currently undergoing a period of increased tension.¹ It is becoming more and more difficult to shoulder the responsibility of uniting higher education and research in one and the same institution as student populations rise and resources stagnate. In academic discussion of the past and future of universities, therefore, one question posed more and more often is whether the research universities of the kind known to us since the presentation of Humboldt's ideas in the 19th century are on the wane, a historical parenthesis.²

Developments in Sweden during the 1990s have been characterised by two fundamental processes which have both had a major impact on the conditions that prevail for researchers and their research.

The first of these involves the growing transfer of the responsibility for financing research in Sweden from the higher education institutions, which previously undertook this task by establishing posts and allocating faculty funds, to research councils, foundations and sectoral agencies. After Sweden's accession to the EU in 1995, the EU has also become an increasingly significant source of funding. In order to carry on research at the Swedish universities today, individual researchers or research teams have to drum up support for a proposal from one of these external sources of finance. The universities are experiencing a progressive transformation into "entrepreneurial universities".³ Individual researchers and research teams increasingly behave as actors in a research market, in which the most attractive and bestpackaged product is the winner.

Competition for funds in this system is severe: many sources of finance have a "success rate" below ten per cent, which means that less than one-tenth of all the applications will be granted funding in the last resort. In areas of special priority, considered likely to yield great social benefits, there may, however, be a much greater chance of procuring funds.⁴ This system with its hardening competition for research resources is often defended by politicians with the claim that research is an activity that needs to be exposed to competition and that it is this competition that generates the best results. At the same

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1. I would like to express my sincere appreciation to all the researchers who have allowed me to interview them and to Sigbrit Franke, Lars Petersson, Lennart Ståhle and Sverker Gustavsson for their valuable comments on previous drafts of this report.
 2. Immanuel Wallerstein, 2003, "Knowledge, Power and Politics: The Role of an Intellectual in an Age of Transition", 12ff; Peter Scott, 2003, "The Research Revolution and Its Impact on the European University", 2ff.
 3. Sverker Sörlin and Gunnar Törnqvist, 2000, *Kunskap för välstånd. Universiteten och omvandlingen av Sverige (Knowledge for Welfare. Universities and the Transformation of Sweden)* 23f.
 4. Dan Brändström, 2002, "Where is Swedish research policy leading the universities", SULF, www.sulf.se.

time increased competition fits in well with contemporary trains of thought.⁵ From a historical perspective, however, competition between researchers has mainly involved their results, in the form of new basic research findings or applications. Rivalry to be first with new discoveries has been considered to provide the best guarantee of creativity, ambition and effort. Today there is a shift – or an extension if one prefers – of this conception to apply also, and perhaps solely, to the competition of ideas, hypotheses and research proposals.⁶ Competition of this kind differs fundamentally from its predecessor and its outcome is necessarily determined on the basis of much less stringent, and very often more subjective, grounds.

The gradual reorganisation of the system of funding research that has been taking place since at least the end of the 1980s is what I would like to describe as a revolution and one whose consequences we cannot at the moment envisage completely. This “revolution” is not, however, restricted to Sweden but affects the conditions that apply to research internationally. Burton Clark, the science sociologist, writes: “Equitable funding, based to a large extent on staff and student numbers is replaced by a system that allows specific areas, projects and academic researchers to be favoured over others.”⁷ There can be no doubt that this kind of radical transformation of the material conditions for research will have an impact on the ways in which research is conducted and research issues identified as well as on the career as a researcher. At the moment, however, we have only limited knowledge of how this affects key individuals – researchers at different levels and in various disciplines.

Secondly, during the 1990s more and more emphasis has been placed on the educational role of the universities, not to speak of the university colleges. The “knowledge society”, the post-industrial society based on services, cannot to the required extent provide untrained labour with work. This trend is international. Highly advanced industrial countries like Germany, France, the USA and Great Britain are similarly experiencing continuous expansion of higher education.⁸ For this reason, on paper at least, more than 90 per cent of today’s age cohorts are undergoing secondary education and therefore extending the catchment for the universities and colleges. During the 1990s there has been a major increase in the number of students taking undergraduate programmes⁹ and the government has stated as an explicit aim that 50 per cent of each age cohort should proceed to higher education. A corresponding expansion of postgraduate programmes has also taken place. Here the target set by the government was to double the number of PhD’s awarded by 2000. This second

5. Peter Scott, 2003, “The Research Revolution and its Impact on the European University”, 2.

6. Cf. Marianne Bauer et al, 1999, *Transforming Universities. Changing Patterns of Governance, Structure and Learning in Swedish Higher Education*, 256.

7. Burton Clark, 1995, *Places of Inquiry*, 203.

8. Burton Clark, 1995, *Places of Inquiry*, 197.

9. Sverker Sörlin and Gunnar Törnqvist, 2000, *Kunskap för välbästand. Universitetet och omvandlingen av Sverige (Knowledge for Welfare. Universities and the Transformation of Sweden)*, 13.

“revolution”, as I would like to call it, has not been accompanied by any corresponding enhancement of the resources for teaching or supervision.¹⁰ This, together with the changes in funding for research, has helped very largely to shape conditions for researchers today.

10. National Agency for Higher Education Annual Report, 2001. There has been extensive discussion of the resources allocated to undergraduate programmes which I do not intend to go into in any greater depth. See, however, Håkan Westling (ed), 1999, *Börjar grundbulten rosta? En debattskrift om grundutbildningen i högskolan (Is the foundation beginning to erode? A contribution to the debate about undergraduate education in the universities and colleges.)*

Aims

The aim of my study is to mirror how the institutional changes I have briefly described above help to shape day-to-day conditions for researchers. My desire is to investigate how active researchers reflect on the situation for research and about their own scope to carry on research that they consider meaningful and justifiable in disciplinary terms. The number of interviews has been restricted to seventeen, which can be explained by the lack of time¹¹ and by my intention to be explorative, to use the appropriate academic term, and not primarily explicative, not to test or develop theories. What I have chiefly tried to probe is the experiences of the individuals themselves of acting in a system which is undergoing change.

11. The study took four months to complete.

The interviews

A great deal of lip-service is paid to academic freedom in the context of higher education. It is often referred to on ceremonial occasions to draw attention to the central role that values like independence and autonomy have played and still play for “free” research, the research that historically speaking has been carried on at universities accountable themselves for their own programmes.¹² Safeguarding free intellectual inquiry was also what Swedish researchers and teachers of all categories considered to be the most important goal for the universities according to a study carried out at the beginning of the 1990s.¹³

In what way have the rapid changes in the external circumstances for research influenced the most central value of the academic world, academic freedom and its embodiment at the level of research? This is the question that originally inspired this study and which has been central to it. I approach an answer not merely by focusing interest on the content that can be ascribed to the concept of academic freedom, which is admittedly central and important, but also by asking about what other considerations may indirectly influence individual researchers and steer the content of their research in different academic disciplines and what consequences this may have for disciplinary developments. Long-term development of knowledge, non-conformity and originality are some of the values that figure chiefly in this discussion.

What is most interesting in this context is how the researchers themselves view the possibilities open to them of attaining the ideal, not how university administrators, vice-chancellors, faculty boards or central agencies define or discuss the concept. For this reason the study consists entirely of interviews with active researchers and its intention is to use this material to provide greater understanding of the reality in which research is being conducted in Sweden today. It has already been pointed out that this is not a question of a major research undertaking. What is presented here could rather be described as a pilot study, with the focus on generating specific knowledge that may later provide the basis for a more comprehensive study.

I conducted seventeen in-depth interviews between May and September of 2003 at the universities of Uppsala, where I am myself a researcher, and Örebro. The idea behind my choice of universities was to include researchers from an ancient and a new foundation to enable identification, if possible, of any systematic differences in attitude. I have also attempted to include a variety

12. The distinction between “commissioned research” and “research on their own account” is explained succinctly in Sverker Gustavsson, 1997, “*Varför inte lägga ned universiteten? (Why not Close the Universities Down?)*”.

13. Göran Blomqvist, Hans Jalling and Karsten Lundequist, 1996, “The Academic Profession in Sweden”, in *The International Academic Profession. Portraits of Fourteen Countries*, 557.

of different posts and academic disciplines. The study included ten professors (of whom two were emeriti), three senior lecturers, two post-doctoral fellows and two researchers on project posts.

The predominance of professors can be justified because a professorship is the most senior permanent research appointment in the university system and today one of the few provided with scope for research within the post (at least for those appointed to chairs). Post-doctoral fellows also have posts in which they are expected to conduct research, but they are not permanent and are only offered for a limited term, normally two years with the possibility of another two years' extension. Post-doctoral fellowships are limited in number. Senior lectureships, on the other hand, are more or less purely teaching posts and one of the categories that has expanded most rapidly in the Swedish system. It is difficult to determine whether the working-hour agreements, as they are called, formally mean that senior lecturers are able to devote 20-30 per cent of their time to their own research. There is argument on this point and practice seems to vary. But it is clear that senior lecturers mainly teach and that the situation in higher education in Sweden today makes it difficult to arrange things differently. There are possibilities for senior lecturers to reduce their teaching loads by acquiring external research funding. Finally, I use the term project posts to denote those who do not have any form of permanent appointment to fall back on but who are employed for a fixed term after external research funding has been granted.

The experiences of postgraduate students have not been taken into account. Here it could be argued that much of the research actually taking place in Sweden is in fact the work of postgraduate students. At the same time postgraduate students form a group to whom special conditions apply: they are undergoing training and have reached a stage in their academic careers when, from a normative point of view, it is considerably more acceptable – in some disciplines is even seen as totally natural – for their choice of problem and methods to be directed by other individuals who are their superiors in the system. For this reason academic freedom is not as relevant an aspiration for postgraduate students. No totally autonomous responsibility for the research in which they are involved can be expected until they have graduated.

In terms of disciplines I have endeavoured to spread my net widely, subject to the limitations imposed by the number of interviews. I have included four representatives of the humanities,¹⁴ three social scientists,¹⁵ five natural sci-

14. Rolf Torstendahl, Professor Emeritus of history, Tore Frängsmyr, Professor in the history of ideas and science, particularly the history of science, Håkan Gunneriusson, a researcher in the history of science and Gunnela Björk, senior lecturer in history.

15. Carina Gunnarsson, researcher in political science, Maria Edin, post-doctoral fellow in political science and Erik Flygare, senior lecturer in social work.

entists,¹⁶ three representing medicine¹⁷ and two technology.¹⁸ This range has enabled the identification of obvious similarities in their descriptions of reality with greater certainty and also divergences that may be of a more general nature. Admittedly, differences that are based to a greater extent on individual factors may complicate analysis of this kind, unavoidably so and in particular with such limited material, but I have still considered it quite feasible to draw some preliminary conclusions of a more general nature. It should be pointed out at once that the similarities predominate. Disciplinary allegiances are often less significant than the fact that all those interviewed are involved in a professional area that is undergoing changes that have a similar impact in shaping the conditions that apply for researchers.

The interviews have taken the form of structured dialogues, which I have prepared by devising a number of predetermined questions to act as a framework. Sometimes the questions have been necessary, sometimes the flow of our conversation has naturally covered the areas in which I sought answers. The interviewees have also been allowed the freedom to steer our discussion themselves, which means that not only my prepared questions were taken up. The questions I prepared and which were posed in all cases concerned the researcher's academic career and background and what motivates their research. In this connection I have also asked whether the expectations they once had of what their research would mean have been fulfilled and to what extent they consider they have the time and scope for their own research.

The researchers have also been given the time to reflect on the concept of academic freedom and its contents and whether they themselves feel that they enjoy such freedom. Some of the ensuing conversation has been devoted to how the researchers fund their research, to what extent they themselves think strategically when applying for research funding and how far they feel other researchers think in tactical terms. Many of them return to the strong links they experience between financial resources and academic freedom. The intention underlying these questions was to get some grasp of the extent to which researchers today are occupied intellectually not merely by the actual application process itself but by considerations and calculations that are not primarily academic but of a strategic and financial nature and threaten to shift their interest and intellectual energy in a direction that is not beneficial for their research. "Nor is it inappropriate to believe that the wrong motive in the wrong area can be harmful for both the individual and the community",

16. Klas Flärdh, post-doctoral fellow in molecular biology/microbiology, Per-Erik Olsson, Professor of biology, Leif Nyholm, Professor of analytical chemistry, Kurt Nordström, Professor Emeritus of microbiology and Jean Pettersson, senior lecturer in analytical chemistry.

17. Håkan Aldskogius, Professor of medical structural biology, Joar Svanvik, Professor of surgery and Göran Magnusson, Professor of medical virology.

18. Carina Johansson, Professor of medical electronics and Dag Stranneby, Professor of electronics.

in the words of Göran Rosenberg.¹⁹ Being driven by the thought of profit in a field where obligations should instead hold sway is, he claims, hazardous. Correspondingly, we should be cautious not to create incentives in the research community that compel tactical consideration of how research funds can best be maximised to take precedence over disciplinary concerns.

In addition I have been anxious to get some kind of grasp of how the researchers themselves choose their research problems or, in other words, how they “catch sight of” interesting new ideas. To what extent is there a “unifying theme” running through their research careers, with new problems arising from their work with existing ones?

Some of the interviews have also touched on the future consequences for the content of research and for developments within disciplines of the form the funding system now takes. In the long term, in my opinion, this is one of the most central questions.

19. Göran Rosenberg, 2003, *Plikten, profiten och konsten att vara människa (Obligations, Profit and the Art of Being Human)*198.

How do researchers define academic freedom?

Academic freedom is a central norm in conceptions of how research should be conducted in the university world. At a time when the conditions for universities are being transformed as rapidly as they are today, it is important to pay attention to what is happening to this norm. How is it interpreted by those actually involved in the research and what do they think their own freedom looks like?

There are both similarities and differences between the researchers I interviewed in the content they choose to ascribe to the concept of academic freedom. What is quite evident is that they all attribute great importance to the norm and that the freedom they identify constitutes a form of definition of what academic research actually is. Academic freedom is a very important norm and interestingly enough, it is a viable one. They all – sometimes after some time for thought – have an answer to the question of how the concept should be understood. On the other hand, this does not mean that all of the researchers interviewed believe that only researchers themselves should determine the content of their research. There are researchers who maintain that some external direction is required and this benefits developments. When asked whether it is legitimate for researchers themselves to exert great influence over the choice of research problem, one social scientist replied: “I think it should be both yes and no. I believe that research should be relevant in the sense that it matters, the knowledge it generates. Not just an ego trip for the individual conducting the research.”²⁰ The historian Gunnela Björk expresses a similar standpoint. However, a more or less contrary opinion is also expressed as well, which advocates the necessity of lack of direction and a “free kitty”.²¹

What does academic freedom mean for the researchers interviewed? In simple terms, there is a difference between focusing mainly on the freedom to select research problems and methodology, without glancing over one’s shoulder or external direction, and seeing academic freedom as essentially the right to publish any conclusions and results, irrespective of the interests they favour. This latter point of view is found mainly among natural scientists and technologists, who often contrast the terms on which academic research is carried out with those that apply in industry.

It is only in comparison with a system that functions according to other rules with differing expectations that the characteristic features of the norm

20. Maria Edin, post-doctoral fellow in political science.

21. Carina Gunnarsson, project researcher in political science and Kurt Nordström, Professor Emeritus in microbiology.

of academic freedom stand out most clearly, as when university based research is contrasted with what takes place in industry or is financed commercially. “If the research is done well, then it still contributes something. In industry even the best research can be buried,” as Håkan Aldskogius, Professor of Medicine, says.

Jean Pettersson, who can also, as an analytical chemist, compare academic and industrial research points out spontaneously that academic freedom is “the freedom that could not be enjoyed in industry. Being able to present my findings freely and getting information from the other researchers around me.” What is interesting is that he can contrast this practice with the situation in which commercial researchers who fail to come up with the results envisaged by their employers may not even be allowed to publish their findings or even describe the method adopted. Dag Stranneby, Professor of electronics, spent a long time, for instance, working for Bofors and “that means in principle that everything I did was secret and could not be published.” Göran Magnusson, Professor of medicine, similarly contrasts the terms that apply to academic research with those that prevail in industry when “a project that is progressing splendidly can be terminated quite simply because there is not longer any faith in the market value of the product. That does not happen here.” For Klas Färdh, a microbiologist, the concept of academic freedom is linked both to deciding what problems to work with and the unassailable right to publish the results.

However, many of those interviewed define academic freedom above all as the possibility of choosing their research problems without external direction. They “can research into something that yields knowledge without any ulterior motives,”²² or “can choose the subject totally freely and not have to think well let’s do some research on the EU because there’s lots of money there, but go where curiosity leads.”²³

It is “the possibility to devote oneself unrestrictedly to pure research and ultimately being able to focus education and teaching on what one considers desirable as an academic,” in the words of Per-Erik Olsson, a biologist.

Academic freedom is strongly linked to research initiated by the researchers themselves and to basing the choice of research problems on the internal disciplinary logic that would ideally govern the research process. “If you come across something interesting then of course you should follow this new direction, after all it would be a dereliction of your duty not to do so. Sometimes you take a retrospective look at what you said you were going to do and it fits really well, sometimes you have gone off on a tangent. And that’s how it should be,” Kurt Nordström, a natural scientist, asserts.²⁴

22. Dag Stranneby, Professor of electronics.

23. Carina Gunnarsson, project researcher in political science.

24. Kurt Nordström, Professor Emeritus in microbiology

This description is interesting, not least because it so clearly states the difference between research and a great many other activities where the value of planning and predictability is concerned.²⁵ Academic freedom, Nordström claims, includes the right and even the obligation to deviate from the course adopted and plans submitted if the research leads in this direction.

In some of the interviews an important belief emerges, which is that the right of researchers to select their own problems provides a guarantee that the problems identified will in fact yield to research, or in other words are susceptible to academic methodology.²⁶ The risks linked to externally imposed research is that it may pinpoint problems to which solutions would admittedly be highly beneficial but which in the current situation academic methods are incapable of resolving. In other words, there are many problems that are extremely interesting, important and to which answers are demanded, but which cannot be studied or resolved with the help of academic methods (or at least not yet). Natural scientists and medical researchers emphasise this point. “If the politicians in the Riksdag were to decide what we should research into then it would be matters of current community concern, irrespective of whether they are amenable to research or not,” as Göran Magnusson, Professor of medicine, puts it.

Yet another dimension of academic freedom is raised. There are people who do not make such a clear link between academic freedom and the organisation of the actual research process, but associate it with external factors, the right to self-determination and to decide on their own working hours, not to be subordinate to a structure pre-determined by others but able to create the structure themselves.

I think there is a relative freedom, one has the possibility of going to meet people and discussing things; even though it is much less often than one wants to, it is still there. So I cannot accept that it is merely an illusion. But it all depends what you compare it to and of course the scope for doing so has diminished a great deal during these years. There is still the possibility of taking the initiative, finding exciting new ways to collaborate.²⁷

In this way social freedom becomes one aspect of academic freedom that is not unimportant. I am referring to the behavioural codes that govern academic activities. Like Björk, the historian, Aldskogius, a medical researcher, draws attention to this aspect when he points out that working as a physician is very different from being a professor. As a professor one works “on rather different

25. An interesting discussion of the (im)possibility of too much government direction for this and other reasons can be found in Rune Premfors, 1986, *Svensk forskningspolitik (Research policy in Sweden)*, 113–116.

26. For a discussion of what is susceptible to research and what scientific methodology is capable of see Peter Medawar, 1969, *The Art of the Soluble: Creativity and Originality in Science*.

27. Gunnela Björk, senior lecturer in history.

terms, where a great deal is based on informal contacts and you have to be ready to discuss anything, at all times and with virtually anybody.”

Academic freedom is a norm that imposes a great deal of responsibility on the researchers and at the same time expresses confidence that their own energy and their own judgement will guarantee academic development. The freedom to choose problems is also regarded as one explanation of the dynamism and potential for development that has characterised academic research historically, and not primarily as a means of maintaining the privileges and self-interest of researchers.²⁸ The question of striking the best balance between direction by the researchers themselves and by external stakeholders has been on the agenda for many years.²⁹

The existence of a norm that grants researchers the freedom to initiate their own research means that they do not always need discuss their ideas or even depend on the interest of others, and the effect can be extremely conservative. There have always been culturally endorsed possibilities of deviating, not following the flow. The norm therefore institutionalises, in the best of cases, the scope allowed for oppositional thinking in an organisation that is at the same time characterised, historically and not least today, by strict hierarchies and the jealous defence of territories and is perceived by many as strikingly reactionary. “Often it has been individual researchers who have laid the ground for an entire field, and that’s the way it is in the area that I am involved in. Individual groups of researchers have done something that interested them. And in fact at that particular time the majority did not consider it interesting at all.”³⁰ Similar ideas are expressed by the political scientist Carina Gunnarsson, who points out that when she herself decided to write her thesis on French policies in Africa there was little interest in the subject in Sweden. But then Sweden became a member of the EU and “we were sitting there and were supposed to make decisions about policies towards an area we knew very little about. So the expertise was needed. So it is very difficult to predict what is important,” she concludes. In other words one could assert that it is indeed the very lack of direction that in the long run creates the best conditions for the breadth that guarantees social relevance.

28. The opinion that research on their own account is a question of self-interest for researchers is criticised for example by Sverker Gustavsson, 1997, “*Varför inte lägga ned universiteten? (Why not Close the Universities Down?)*”, 129–130.

29. Sverker Gustavsson, 1971, *Debatten om forskningen och samhället. (The debate on research and the community.)* 25

30. Leif Nyholm, Professor of analytical chemistry.

Do researchers feel that they enjoy academic freedom today?

The norm of academic freedom lives on and is significant in the research community even though there are variations in where the emphasis is placed. For the majority, this freedom comprises the right to publish or to choose their own problems and methods or both aspects at once, the features that distinguish academic research from that undertaken in other sectors of society. This means that it is the role ascribed to the researchers in the research process that is central when we discuss the survival of the research universities.

Do researchers themselves feel today that this norm has any importance in practice and that it structures their own research environment? The answer to this question is both yes and no. We can establish, to begin with, that none of those interviewed feel that they are subject to direct control, in the sense that they are told which problems to deal with or ordered not to continue because the results are not what were expected. This kind of direction is still unknown at the universities, which distinguishes them from the research organisations that exist in industry or certain research institutes. Instead, many of them emphasise that they do enjoy the freedom to choose themselves. “Yes, I really have,” is the response of Carin Gunnarsson, when asked if she has freedom, and she goes on: “I feel really free where my research is concerned, when it comes to conclusions, organisation and my reading.” “The system itself remains more or less unchanged: there is less money, admittedly, and there are other aspects that encroach on one’s day-to-day doings. However, none of them encroach upon my freedom,” adds Göran Magnusson, Professor of medicine.

In actual fact the question of the existence of direct control of the kind applied in industry is not the most acute issue either when the focus is on academic freedom. Instead, the most relevant topic for discussion seems to be the impact of the current funding system on conditions for the development of research on the basis of disciplinary concerns rather than an externally determined research agenda. It is in contemplating the balance between the wishes of the “community” on the one hand and judgements justified on disciplinary grounds on the other that we will perceive the role of researchers in the research process today.

A standing impression that emerged from virtually all the interviews was the preoccupation with resources and funds that characterised their descriptions of their everyday work. Strategies and consideration about acquiring resources recurred in many of the interviews as a leitmotiv, perhaps even the leitmotiv. For the majority, therefore, academic freedom is strongly linked to the possibilities of actually acquiring the resources to carry out any research at

all. To do so requires adaptability and tactics. Several of the researchers conclude that freedom is chimerical unless opportunities are provided of putting it to use. And these opportunities take the form of money.

So if you want to characterise the situation you could say that researchers at universities can no longer conduct research within their posts, that is almost impossible. But a researcher has to apply to Stockholm for money, and has to formulate a problem that suits a specific foundation or research council, and every step like that reduces academic freedom.³¹

These are the words of Tore Frängsmyr, Professor in the history of science. The conclusion he comes to is that it is a construction to speak of real academic freedom if you do not have a post that enables you to determine the content of your own research. Historically speaking, only a small group of private researchers with independent means, “gentlemen scientists”, have really enjoyed academic freedom. Before you can choose freely you must have financial possibilities: “As soon as you write an application to a research council or a foundation, you have surrendered some of your freedom.” Even though the attainment of total freedom is something of a utopia according to Frängsmyr, today the situation is an extreme one in which the latest research trends and conformity take pride of place.

Kurt Nordström, Professor Emeritus in microbiology agrees with this negative description. Freedom today is “threatened or extremely threatened. For several different reasons, but the most important is funding, and this has become increasingly difficult for curiosity of this kind.”

At the same time academic freedom for research that requires substantial funding is a chimera. You are free to ask for money for whatever you like, but you do not get money for whatever you like, and when you do get funding it is never enough, and the way things are today that limits your freedom too. We are not dealing with a command structure like you find in industry, but it limits your scope.³²

The description given by Göran Magnusson here agrees with what Frängsmyr and Nordström assert. Academic freedom requires certain conditions if it is to be realised, at least to some extent, and these conditions have altered for the worse. Among the older researchers, who can look back on developments since the 1960s, the impression begins to emerge of the replacement of an earlier system based on considerably greater trust in the judgements of researchers themselves about the importance of various areas by an approach in which explicit social benefits are continually being cited when researchers apply for funds. “Now you have to explain that this is not only important for

31. Tore Frängsmyr, Professor in the history of ideas, particularly the history of science.

32. Göran Magnusson, Professor of medical virology.

our understanding of the function of the nervous system but the knowledge is needed in order to explain this or that,” as Håkan Aldskogius, Professor of medicine, puts it.³³

On the other hand these external restrictions do not always have to imply a radical change in the research process. Researchers learn how to use the new system to maximise the benefit for research undertakings in which they believe. This means that the system “compels” many researchers to indulge in what could be described as “double bookkeeping”. Adaptation to exterior circumstances becomes part of their everyday routine, while at the same time they are motivated internally by convictions that to some extent differ from those presented to the outside world.

Even though most of the researchers interviewed feel that they enjoy a negative freedom – to use the terminology of the philosopher Isaiah Berlin – in other words the freedom to be left alone, they are not as fortunately placed when positive freedom is concerned, the scope to actually put to service the negative freedom they enjoy.³⁴ Having the formal freedom to research into something that you yourself have initiated is admittedly better than having no freedom at all, but it will have no effects on the system if the practical requirements are not forthcoming in the form of scope for research within a post or a funding system that is not tightly steered towards specific areas. As we have previously observed, the blessings of academic freedom need not primarily be considered in terms of the self-interest of individual researchers but rather as a way of institutionalising divergent thinking and therefore creating good, probably the best, circumstances for dynamic development. But if there is no possibility of turning this negative freedom to account, in the end it will possess little value. In this respect, if we can judge from these interviews, a major change has taken place since the beginning of the 1990s when 90 per cent of the professors, 83 per cent of the senior lecturers and 70 per cent of the remaining teaching and research staff stated that they themselves had complete control of the focus of their research. The authors of the study that present these statistics note that this great degree of freedom is maintained even though the

33. This is not uniquely Swedish either. “Social robustness”, or social or community implications, is a criterion that has also become to some extent a rival to “peer review” and strict academic assessment for legitimacy in academic contexts as Michael Gibbons et al pointed out in 1994 in *The New Production of Knowledge*, in which the authors describe the emergence of a knowledge ideal that contrasts with the traditional academic concept, which they denoted with the terms Mode 2 (the new one) and Mode 1 (the traditional). In Mode 2, knowledge is instead the outcome of more extensive considerations. Knowledge of this kind is intended to be useful for industry or the state, or in more general terms in the community, and this criterion is included from the beginning (4, author’s translation). Similar observations can be found for example in Maurice Kogan, 2003, “*Modes of Knowledge and Patterns of Power*”, 5.

34. Isaiah Berlin used the concepts of negative and positive freedom to depict how freedom is viewed in political history. See his “Two Concepts of Liberty” in *Four Essays on Liberty*, 1969.

bulk of the research is funded externally by research councils.³⁵ Today the situation is admittedly similar in that external funding predominates to a great extent, but it comes from a larger number of more heterogeneous sources and even agencies such as the Swedish Research Council tie their funding to specific issues or areas, as is pointed out in many of the interviews.

Many researchers are deeply concerned about this development, in particular in the natural sciences and medicine. Criticism is also expressed by humanists and social scientists, although at the same time they display greater understanding of the control demanded by society. This tentative pattern could be traced back to the evolution of more highly developed discipline-based priorities in subjects like the natural sciences and to some extent medicine, where externally imposed focus on specific areas on the grounds of social benefit comes into more direct conflict with the long-term development of knowledge within the subject.

35. Göran Blomqvist, Hans Jalling & Karsten Lundequist, 1996, "The Academic Profession in Sweden", in Philip Altbach (ed), *The International Academic Profession. Portraits of Fourteen Countries*, 551. The authors' statement is interesting in view of the findings of my study: "The fact that more than two-thirds of the younger researchers feel totally free to focus their research on problems which are of special interest to them creates an environment characterised by the great liberty young academics enjoy to follow their own bent."

Inside the research process: the unifying theme

What to research into is one of the more important choices that researchers and research teams have to make. It is therefore no accident that those who fund research in various ways, including the research councils, endeavour to guide researchers into areas which are perceived to have social benefits in the short term. How research problems are chosen and what form the process takes is interesting in view of the priorities that many external funding agencies tend to give to specific areas or approaches today and which can be seen as a system in competition with the more disciplinary-driven research priorities I referred to above.³⁶

How then do experienced researchers describe the way they make choices in their research? Some of those interviewed describe how they see a unifying theme that permeates their research careers, in particular those working in the natural sciences and medicine.³⁷ This unifying theme has not been planned in advance, however, but is often only visible in retrospect. They look back to realise that they have in fact devoted many years to following the same path. Kurt Nordström, Professor Emeritus in analytical chemistry, looks back on a long life of research in which the continuity as far as he is concerned has been considerable:

In a way I am still working with the same thing as at the beginning of the 1960s, there was progression, but it only became clear later. It has been possible to get the funding and the research was inspired by sheer curiosity but today you have to say in advance what (...) I work with bacteria cells, how they propagate and divide. I spent some time on what happens to begin with. What I did next could be seen as a quantum leap but also as a natural progression, and there are lots of things like that.

Similarly, Göran Magnusson, the virologist, who spent a long time on research into viruses that can be found in animals but which do not cause sickness, describes how he was given a subject by his supervisor. "And since then it just took off: I soon got involved with DNA-techniques and was one of the first

36. It is not only in Sweden that priorities are increasingly being laid down for research. In *"The Research Revolution and its Impact on the European University"* Peter Scott writes: "The first stage in this transformation is a growing endeavour to steer research priorities which is manifest at several levels. At the supranational level, the best examples are the recurrent European framework programmes". (2003, 12, author's translation). Cf. Maurice Kogan, who in *"Modes of Knowledge and Patterns of Power"* establishes that in the United Kingdom there has been an increase in external funding for research in selected areas (2003, 15).

37. It is also mainly researchers in the natural sciences and medicine who say that the motivation for their research is based mainly on curiosity (see section 9).

to master them and how you could deliberately alter inherited characteristics to see what would happen.” “That’s how it is, you start a project and then you have ten new ones. You have ten new ideas,” adds Leif Nyholm, Professor of analytical chemistry.

Externally imposed research priorities compete, however, with the process of internal generation I have described above, which is based on the way in which new research problems, hypotheses and potential solutions emerge during the research process itself to engender new projects. This way of conducting research, which is not at all uncommon in the natural sciences, gives rise to great continuity, advanced expertise and specialisation. It is obvious that externally imposed research priorities, which necessarily change as a result of the impact of new stakeholders, subscribe to a completely different logic. The consequences of this kind of control can be problematic. One of the most important is that there is a risk that the research process will end up lacking coherence for individual researchers or research teams as they are cast from one area to the next even though there is very little internal correspondence between them. Another system “would be less confusing and less heterogeneous, more long-term” as the medical researcher Håkan Aldskogius points out.

What to do research about – in some way you have a unifying theme really, but you have to be more tactical about how you present things and what is linked to the unifying theme. And sometimes you try to stretch it a bit, and so there are protuberances or outgrowths or side-tracks that would not have been there otherwise.³⁸

Håkan Aldskogius, and several with him,³⁹ describe a process of adaptation that researchers are constrained to by the way in which the system currently functions. It is a question of striking a balance between remaining up-to-date with the ‘in’ subjects – “if you want to do research you have to angle it a bit towards the ‘in thing’ at the moment”⁴⁰ – and the dictates of both one’s own curiosity and what is central to the discipline. One may well wonder whether the thought and energy that is devoted to presenting such compromises as attractively as possible is a good investment from the viewpoint of the community.

Today, therefore, there is considerably less public assurance than there used to be that the priorities and choices made by researchers themselves will also lead to scientific findings that will benefit “the community”. There is no room here to discuss the explanations for this growing distrust, but like many of the other factors described in this study, it is an international trend rather than a uniquely Swedish phenomenon. A conviction is emerging in some quarters that legitimacy can be attained through a more “democratic” process with

38. Håkan Aldskogius, Professor of clinical structural biology.

39. Leif Nyholm, Professor of analytical chemistry.

40. Leif Nyholm, Professor of analytical chemistry.

wider involvement in the determination of the immediate direction to be taken by research rather than priorities being set by the researchers themselves. Fundamentally this approach is a combination of distrust of the academic community (which is how several of those interviewed perceive it), the decline in the status of the professions and the urge to democratise by extending influence in many areas to considerably more people.

How does the funding system influence the content of research?

Discussions about the content of research have for a long time concerned the balance between two values: disciplinary concerns and quality as opposed to social relevance and benefit. At times pure research and applied research have been the terms used to denote research that to varying degrees accords with these values, with pure research seen as “researcher directed” and applied research “socially oriented”. There is in other words a tension between these values that could also be perceived as the counterpoise of long-term and short-term objectives. “The community” wants immediate results, in the form of new drugs, new methods of treatment, technology that reduces the daily grind for many people or knowledge of how to avoid armed conflict, safeguard democracy and identify good management. For the development of academic theories, however, other areas of research than those most likely to produce serviceable results rapidly will be most fruitful in the long term and will also in the short term give rise to knowledge with the potential for even more favourable applications. The tension between this short and long-term perspective is genuine and to some extent irreconcilable, and both the demands made by society and by the academic community are reasonable ones.

It would, however, be no exaggeration to assert that there has been an intensification in institutional demands for relevance and benefit, not least during the 1990s, in that even the research councils, such as the Swedish Research Council (Vetenskapsrådet), intended to uphold interest in pure research,⁴¹ today earmark large sums for investment in areas of special priority, like the Bank of Sweden’s Tercentenary Fund and the EU in its framework programmes. This also applies to several of the foundations that were created with the help of the national wage-earner funds.⁴² There has been a marked development in the reservation of funds for special areas of interest, the outcome of either purely political concerns or a mixture of political and academic considerations, in the Swedish research system. The system has also led to a focus on “short” projects, i.e. circumscribed research assignments that can be completed in two or three years.

41. See for example the article by Thomas Östros, Sweden’s Minister of Education, entitled “Din bild är alltför dystert (You are presenting far too gloomy a picture)”, published in 2001 in *Universitetsläraren* 18/2001.

42. Cf. Brändström, 2002, 5.

Long term considerations versus social benefit

If Einstein had written an application today, it is often alleged, he would never have been given any money. Because the idea just isn't feasible. You cannot submit high-faluting long-term plans but have to present something that can in fact be completed within a limited period. And it is also important to publish in the best journals possible. This can lead to a certain degree of uniformity and it is a matter of going in for things that can be squeezed into the shortest possible structure. Things that will take longer are clearly at a disadvantage, or rather constitute a risk that you have to take.

When Per-Erik Olsson, Professor of biology, reflects hypothetically about Albert Einstein's chances of acquiring support from the current Swedish funding system, he is expressing ideas that are shared by many of the researchers interviewed. Not least those working in the natural sciences and medicine return again and again in our discussions to the threat to the long-term development of knowledge posed by today's system, which is based on providing funds for projects that are restricted to periods of two to three years. This means that to be able to submit an application for a research project it must be devised to enable its completion within a period that is relatively short seen from the research perspective. "And then there is another aspect of really free research – it is very long-term. It takes a long, long time to develop the expertise and the intellectual environment in a field. And then you cannot work in three-year periods."⁴³

Many researchers in the natural sciences and medicine, more so than in the humanities and social sciences, are concerned about what impact a funding system constructed to provide a set of incentives that researchers adapt to will have on academic breadth and future preparedness for the emergence of new, uncharted areas for their disciplines to explore.

After all there has been a lot of research and many projects which have succeeded in making some progress but which have never been continued, because some other area has been designated as a special interest. And then the problem is whether to shift to that or carry on anyway, because there won't be much funding available. Things get focused on certain areas.⁴⁴

Concepts like basic research and state-of-the-art research are sometimes used to distinguish research which takes a more long-term perspective from research that focuses on specific problems. The more long-term perspective taken in basic research involves getting to grips with and attempting to solve the fundamental problems that arise, whereas state-of-the-art research can sometimes

43. Kurt Nordström, Professor Emeritus in microbiology.

44. Leif Nyholm, Professor of analytical chemistry, who also claims that this easily gives rise to discontinuity with researchers launching projects and developing the necessary infrastructure only to run out of funding in a short time.

focus on circumventing them, putting them on the back-boiler and trying to find alternative, and more expedient, ways of achieving results:

Now we are taking short-cuts, and that can mean perhaps some reluctance about developing complicated methodologies that we cannot master. There are also problems if you have postgraduate students because you have to get them working and producing results for some time before they really are doctoral students.

Can that mean that you avoid problems that seem complicated?

”Yes, I think it can.”⁴⁵

Several agree further that the problem for research and also for the freedom of research is that basic research is increasingly having to take second place:

So broad basic research is vanishing more and more, in favour of the somewhat narrower state-of-the-art research that makes rather more rapid progress. And in that way academic research in the universities is beginning to resemble industrial research more and more.

Can you say anything about that development, what you think about it?

I think it is a very, very major drawback. It takes less time, but it is not as broad, it makes more rapid progress in some areas but it is not as broad as the genuine, traditional basic research that we carried out when we got funding through the faculty for our different sections and did not have to apply specially, but it was allocated and you established research posts and got the money for them. So there is a very big difference.⁴⁶

A number of the researchers in the natural sciences and medicine point out that in principle university-funded basic research vanished from the universities during the 1990s and emphasise the major contrast with the situation that prevailed up until the end of the 1980s.

Conformity versus autonomy

The ultimate aim of research is new knowledge. Not all new knowledge need be original, but originality is nevertheless the value that many researchers, and research administrators and politicians, place first. Originality is the opposite of conformity and uniformity, it is the capacity to transgress set patterns of thought and questions (and answers) that are taken for granted, and it therefore requires intellectual autonomy and a capacity both to isolate oneself from

45. Håkan Aldskogius, Professor of clinical structural biology.

46. Jean Pettersson, Senior Lecturer in analytical chemistry.

earlier research and also to take it further. I have dealt with the issue of originality and creativity from an institutional perspective in research in another context, and enquired into the institutional factors that foster creativity, or at least successful research, in the prevailing research climate.⁴⁷ We could also add something to the institutional factors that influence the capacity of researchers for creative research I did not include there – the funding system.

Today the majority of the researchers in all the disciplines I examined acquire funds from research councils, foundations and public agencies. The largest sources of funding are currently the Swedish Research Council (Vetenskapsrådet), the Swedish Cancer Foundation (Cancerfonden), the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (Formas), the Foundation for Strategic Environmental Research (Mistra), the Knowledge Foundation (KK-stiftelsen) and the Swedish Foundation for Strategic Research (Strategiska stiftelsen). In addition there is the EU. What picture do the researchers have of the impact of values such as originality and autonomy?

The research foundations are sensitive to trends – but then so is research. The risk is that everyone will end up doing research on social capital, democracy (that everyone will follow the crowd).⁴⁸

One aspect that is mentioned far too little and which is ignored dreadfully is that research is so awfully fashion conscious. I have been there looking through applications, I sat on one of those committees once and since then I have avoided it; not only was it a lot of work but it was also depressing because you could see distinctly how trends set in. Suddenly something becomes the fashion: in terms of methodology – quantitative methodology, Marxism, gender research, social constructivism. And I think that when research becomes modish we are taking a precarious path, I would say the wrong one. For me there can be no preconceptions in basic research.⁴⁹

The outcome is that you focus on the fashionable direction, when you apply for funds you try to go in for what is popular at the moment, you invent new projects that you think will fit in with what you believe the Research Council wants you to do research into.⁵⁰

Three voices, a social scientist, a humanist and a natural scientist, who all analyse developments in similar terms. What they are drawing attention to is that research funding today is not only based on being able to produce results relatively rapidly but that resources are also reserved for specific objectives, which augments the impression that the inherent logic of the system is giving

47. *Organising Innovative Research. The Inner Life of University Departments*, 1997.

48. Maria Edin, post-doctoral fellow in political science.

49. Tore Frängsmyr, Professor in the history of ideas, particularly the history of science.

50. Jean Pettersson, Senior Lecturer in analytical chemistry.

rise to uniformity. This could be presented positively by saying instead that a critical mass is being created in different areas that could be beneficial for the content of the research. However, it is mainly the way in which the institutional structure encourages conformity that disturbs the researchers interviewed. Here no distinct differences between the disciplines can be observed either, as was the case for attitudes to long-term approaches. Those working in the natural sciences, in medicine and the humanities seem to agree that a flock mentality is developing among researchers and that this is being fomented by the paucity of resources.

If you earmark money, people will apply. This time it may concern immigrants, next time gender research. But it is a signal that here there is money to be found (...) It is when you seek your own way and have a personal interest that you make the unexpected discoveries or find some aspect that can be fruitful.⁵¹

These are the words of Tore Frängsmyr, for many years Professor of the history of science. Earmarking funds is also something that Knut Nordström, Professor Emeritus in microbiology refers to, claiming that the money available for research driven by curiosity is declining as more and more research funding is reserved for specific areas or approaches. “And the EU works in the same way, and that’s even more erratic because they define what they consider important every fifth or sixth year in the framework programmes.”

At the same time opinions vary about the impact of earmarking and steering funding to specific areas on the everyday activities of the researchers themselves. Ensuring that applications are presented in a certain way and the great readiness to adapt in this respect need not, in other words, always be reflected in what really goes on in laboratories, libraries, clinics and computers. The image that emerges instead is that research funding has encouraged dexterity in “packaging” research in various ways depending on the addressee. Once again “double bookkeeping” is an appropriate image: the institutions demand the presentation of one aspect externally while internally another or somewhat different course is being followed.

On the other hand I believe that everyone behaves tactically when they are putting an application together – that does not mean that you think like that but it means that if you have a project, you can rephrase the first page a bit depending on where you think the funds are going to come from. But it is still the same project.

Does one adapt depending on who it is going to?

Obviously if there is funding for democratisation, then I will try to phrase it so that the project has some impact for democratisation, My feeling is that you have a project and you package it a little differently, and then you do what

51. Tore Frängsmyr, Professor in the history of ideas, particularly the history of science.

you intended to all along. You may add some question, but in that case it is for the best.⁵²

Maria Edin, a political scientist, affirms that researchers “respond” to the way the system is constructed by striking a balance between external accommodation and internal autonomy. Göran Magnusson, a medical researcher, makes a similar observation on the basis of his work as an assessor for the Cancer Fund and the research councils: “When you read the applications, it is obvious that people are trying to angle their projects even though they are the same old projects and if you have the experience you can see that. But you may be able to support it after all because it is good research.” At the same time he believes that researchers have probably become more aware of the signals transmitted about where priorities are going to be placed seeing that the funds allocated for basic research by the Swedish Research Council have dwindled.

Alongside the strategy of packaging “old” projects in appealing wrappings, there is also a possibility to link the funding possibilities available with something of interest. A pragmatic stance is adopted in which researchers select from the various focuses and “earmarked funds” on offer and consider how interested they themselves are in any of them.⁵³

Rolf Torstendahl, Professor Emeritus in history, also declares that he has nothing against stimuli and ideas that come from outside. When the EU announced funding for research on migration, this tallied with the focus taken by the work of Torstendahl and his colleagues.

Now I and my staff or colleagues in Västerås thought that this would suit us. It was not at all a bad way of describing what we had been talking about vaguely previously. We could adapt things and put together an application.

Even though funding is obviously considered to have some steering effect, researchers develop strategies that enable them to come to terms with this control by choosing themselves what they want to adapt to. What is described above appears, however, to be a relatively distinct system of “double bookkeeping” in which strategic factors, included to satisfy externally imposed demands that individual researchers or research teams often consider less than fruitful, become important for survival in the system. This approach, just like feelings about conformity, long-term considerations and the lack of genuine academic freedom, may have a negative impact on the researcher’s most important resource – internal motivation, the urge to find out.

52. Maria Edin, post-doctoral fellow in political science.

53. Håkan Gunneriusson, researcher in the history of science.

The balance between research, teaching and administration

While the funding system was undergoing transformation in the 1990s, increasing weight was also being given in the Swedish system of higher education to teaching. At the same time the authorities cherished the belief that Swedish universities and researchers should be striving for excellence, state-of-the-art research and world-leading positions. In addition to money, which for many researchers is a necessity if their research ideas are to be realised, another indispensable requirement is time. Large student populations demand a lot of teaching, and increased teaching requires increased administration. In addition, there has been a general bureaucratisation of higher education during the 1990s. At the same time, the ever growing student numbers since the 1960s have led to increasing heterogeneity in their knowledge and aptitude. This also requires academic teachers to spend more time on adapting their teaching. My study included only a few senior lecturers, the category whose working conditions have probably been most seriously affected by the expansion of undergraduate programmes during the 1990s. Where professors are concerned, as we shall see, it is mainly administration that makes demands of their time.

As a result of the development of the new universities and university colleges in Sweden, undergraduate programmes are now offered in a large number of places. In my interviews a clear difference can be seen in the way researchers at the new university of Örebro view their situations compared with their counterparts at the ancient university of Uppsala. "If you want to make an analysis you could say that what is happening at Örebro is that the university has less and less scope, or devotes less and less energy, to maintaining the research element of academic life," claims Per-Erik Olsson, Professor of biology at Örebro University. This is endorsed as well by Erik Flygare, Senior Lecturer in social work at the same university, who since the award of his PhD has spent more or less the whole of his time teaching even though he has a research qualification.

Gunnela Björk, Senior Lecturer in history at Örebro, with research funding for 50 per cent of her post and 50 per cent teaching, says that teaching and administration always tend to take more time, at the expense of her research. She describes a situation in which the primary responsibility, in actual fact, is to teach and in which arranging timetables in ways that could encourage research – for example the allotment of contiguous periods of time – is not practically feasible. Loyalty and solidarity are emotions that are brought into play, and it would be disloyal to devote time to research when the teaching load is so burdensome. There is a greater feeling of solidarity with the depart-

ment and fellow-teachers than with the source of research funding and the research itself.

Is there anyone else beside you who can speak up for your research commitments?

No, and I believe that's the problem. Everyone can see that it is needed and everybody is really pleased about the money and all that, but everyday chores always interfere. But nobody ever says well now you don't have to bother about all that because you have got research funding – that never happens.

At the same time there are expectations from both departmental administrators, colleagues and the individual researchers that research funding will be available and that the research will be completed. "Somewhere we have great ambitions and great possibilities of making use of our research in undergraduate teaching."⁵⁴ What is frustrating for the researchers is that on paper they are carrying out research, so expectations therefore increase and their sense of impotence becomes even greater when reality often looks very, or even totally, different.

Continually writing applications and above all often having them rejected can lead to lack of motivation, which will have a negative effect on the researcher and indirectly on the research.⁵⁵ If you spend three to four months on applying for funding and only receive meagre amounts, you can easily end up feeling that it is very much a waste of time. However, given the current system of funding, it is impossible to avoid situations like this – they are only to be expected. What does, however, create a greater feeling of futility is the growing bureaucratisation which has had a very negative impact on researchers. Here it also becomes clear, even with this relatively restricted interview material, that this is not experienced by everybody but mainly among the ten professors, whose assessment of what is taking place is relatively unanimous, irrespective of their disciplines. Today professors are to a very high degree administrators. This may seem in itself an inefficient use of resources, but the main problem lies primarily in the fact that most of their tasks are felt to be pointless, a waste of resources that serves no purpose. Kurt Nordström, Professor Emeritus in microbiology summarises the development that has taken place in the university since he was appointed to the chair at Uppsala in 1982:

When I arrived in 1982, basically you were given a sum of money – there was nothing like the same amount of planning and direction – and you could more or less do what you wanted with it. This went on for virtually the entire 1980s, but then things began to change at the end of the 1980s – it is never easy to know when changes start. Now we have ended up in a situation that seems to me to have been bureaucratised into paralysis. Budget plans and internal audits

54. Gunnela Björk, Senior Lecturer in history.

55. This is claimed for instance by Carina Johansson, Professor of medical electronics.

are much more important than teaching and research. And this really makes an impact on the professors, indeed you could say on everything we do.

In what way do you mean that this organisation ...?

We waste time on totally uninteresting things that have no connection with what we are doing. Without it being any benefit for anyone.

Nordström comes to the conclusion that it is research that has had to foot the bill for all this. Göran Magnusson, who researches in medicine, offers a similar description and is very worried about the “accelerating bureaucratisation” of the universities which, in the last resort, is due to the accounting that is required by the government today for everything “and I am prepared to bet a large amount of money that nobody ever reads it”. Per-Erik Olsson, Professor of biology at the new University of Örebro, also refers to the heavy administrative work-load, which he links to the fact that the university is in the process of starting up and therefore places even greater demands on its professors.

Now I think there is an extreme amount of administration at the moment. Different enquiries, various proposals are circulated for response that require quite extensive explanations and I find it difficult to see how they benefit us. Expert opinions and that kind of thing, that is done in my spare time so I do not include it in the administration I do myself. The administration wants an enormous amount of information.

In view of the similarity with which the professors at Uppsala describe their workloads, this is probably not due to the recent establishment of his university but part of the general increase in university bureaucracy.

Another of the interviewees even goes so far as to consider that accepting a professorship was a mistake, as his intention was to satisfy the drive that once attracted him to professional research – previously he had been working in industry. He expected a university post to involve mainly teaching, supervision and research. Instead the bulk of his time is spent on administration: “Unfortunately all my time is devoured by what I consider to be unnecessary and pointless administration.”⁵⁶

The time that professors have at their disposal for research is in every case restricted, as has also been shown by previous studies. “I usually say that when everybody has gone home on Friday afternoon, I can spend some time on a little illicit research myself,” Dag Stranneby, Professor of electronics says jokingly. As a senior lecturer, Gunnela Björk considers that the primary task for professors is no longer to do research but to “attract funding” and it has almost got to the point when no matter how ingenious or supportive they are, if they have not been able to raise funding they have not done what they are supposed to”. Therefore she says she would not like to be a professor herself. “It does not seem in the least attractive to me, not at all.”

56. Dag Stranneby, Professor of electronics.

What drives researchers?

What attracts individuals to research? What keeps them? These are important key issues for any understanding of what a research organisation that will work effectively should look like, all to maintain the crucial motivation at as optimal a level as possible. In a creative profession of this kind, internal motivation is indispensable to ensure good research and not least to produce new knowledge and pioneering results.⁵⁷ Psychological studies and studies in the sociology of science have shown that research that has been requisitioned or that is being carried out mainly to fulfil external expectations is less frequently creative.⁵⁸ For this reason it is more important in research organisations than in many others not to extinguish motivation or distort it with the wrong sort of incentive. I intend to conclude by presenting the researchers' own views of what makes research attractive, why they opted to become researchers and how they perceive the situation today.

The responses of the interviewees when asked why they sought to become researchers and what they expected can be sifted into different categories. This is not remarkable. Research is, in spite of everything, organised in various disciplines and also demands a variety of capabilities.

Two of the humanists emphasise the role played in research by writing, the actual production of text, and the possibility of digging more deeply into things, in contrast to journalism.⁵⁹ "The desire to write is an important element. That was what made me retrain as a journalist but then I ended up working in electronic media, which was pretty silly. So the desire to write is a very strong motive force," says Gunnela Björk, a historian. But not all humanists have to share this interest in writing. Instead, Håkan Gunneriusson, who works with the history of science, finds appeal in the analysis: "I do not enjoy writing that much, nor explaining, which is what you have to do when you write, but on the other hand I do like the analysis itself. Once you have cracked a problem the fun is over."

None of the social scientists ascribe this important role to writing, citing instead interest in the subject itself, for example a strong interest in China, or the role of the mafia in Sicily.⁶⁰ In medicine, Håkan Aldskogius refers to interest in the nervous system as the motive force that decided him to begin research rather than any feature of his personality in general.

57. Teresa Amabile, 1990, "Within You, Without You ..."

58. An analysis of the literature dealing with this issue will be found in my *Organising Innovative Research. The Inner Life of University Departments*, 1997.

59. Tore Frängsmyr and Gunnela Björk.

60. Maria Edin and Carina Gunnarsson.

Several of the interviewees, and interestingly mainly those working in medicine and the natural sciences, refer to the significance of what is traditionally associated with research, the importance of **curiosity** as a motive force.⁶¹ In this way they correspond to the classical image of a researcher. Curiosity can be seen as the urge to investigate, test and try things out, a drive that is independent of any specific issues or circumstances, and which is based on open-minded wonderment. Indeed, at times basic research is referred to as research inspired by curiosity.⁶²

My fourth category mainly invokes a motive force that I have chosen to refer to as **problem solving**. Unlike research driven purely by curiosity where, to simplify somewhat, the emphasis is on the questions, the strongest motive force for the researchers in this category is interest in the solution to problems.⁶³

Well, really it's a question of trying to understand what is happening ... when you run into a problem. A great deal of my work involves developing techniques and getting things to work better than they do at the moment, and then you have to know how they function. And that is probably the drive behind what a lot of people in the faculty are doing. Trying to sort out problems and trying to solve them. So there is a lot of problem solving and that is where the enjoyment lies as well, trying to find new solutions. Coming up with things you have not thought of.⁶⁴

This is how the chemist, Leif Nyholm, expresses his interest in research. The distinction between curiosity and problem solving is not crystal clear, but among the researchers I interviewed it is obvious that more of those working with the natural sciences, technology and medicine see one of the two as the driving force behind their research.

A fifth category also exists, individuals who indicate that their interest in research derives ultimately from a desire to **make something with their own hands** and put objects and things to practical use. Carina Johansson, Professor of medical technology, and Jean Pettersson, a senior lecturer in analytical chemistry, both more or less maintain the importance of this kind of motivation.

Therefore even if there are a number of significant driving forces apart from curiosity that inspire researchers to devote their lives to research, I would like to emphasise two aspects shared by many of those I interviewed. The first is the stimulation that many derive when faced with something difficult, chal-

61. Kurt Nordström, Professor of microbiology, Joar Svanvik, Professor of surgery, Per-Erik Ohlsson, Professor of biology, Dag Stranneby, Professor of electronics.

62. Dan Brändström, 2002, "Where is Swedish research policy leading the universities?"

63. Klas Flärdh, post-doctoral fellow in microbiology, Håkan Gunneriusson, project researcher in the history of science, Leif Nyholm, Professor of analytical chemistry.

64. Leif Nyholm, Professor of analytical chemistry.

lenging, impenetrable and not prettified. The challenge of contending with problems that do not easily yield to ratiocination appeals to many of them.

Secondly, many of them emphasise how much they appreciate, indeed you might even say need, their autonomy and freedom, not only when it comes to choosing problems but also deciding when to work and on what conditions. In brief, being able to manage their own time. “The greatest benefit of the total freedom one is given is being able to come and go when you want, you can work yourself to death if you like, as it were, and at other times do very little.”⁶⁵ Gunnela Björk, a historian, describes the importance of a similar value, “taking responsibility yourself and even so being able to manage your own time,” in her case and considers that it is a question of age. “Either you become one of the bosses or you try to attain some freedom, because you cannot put up with being subordinate to someone younger than you are or something like that.”

My assessment, which is very preliminary, is that the tendency to steer the allocation of research funding, the progressive establishment of a “mode-2” approach to the production of knowledge in academic environments as well, tends to have the most deleterious impact on researchers who are driven by their curiosity, or in other words mainly those working in the natural sciences and, to some extent, medicine. This observation fits in relatively well with the impression this group gave earlier of being concerned about the long-term elements in the development of scientific knowledge. They experience the real limitations in academic freedom most palpably because it was their open-minded curiosity that attracted them to research and it is they who find it most difficult to “re-adjust”. When the driving force is a strong interest in social or political issues, or authorship and writing itself, then the restrictions in academic freedom are admittedly experienced keenly but they do not strike as directly at the very heart of motivation.

65. Jean Pettersson, Senior Lecturer in analytical chemistry.

Conclusion

The European university system is under threat. Research universities, with their unique combination of research, education and autonomy, are institutions that require state patronage if they are to survive. This insight laid the foundation for the success of the European universities and the progressive withdrawal of this patronage, in the form in which it is required, in the period since 1945 has also led to the situation we are facing today.⁶⁶

There are a number of different ways to achieve the abolition, either deliberately or inadvertently, of a research university as a functioning and stimulating institution. One of them is to minimise the time available for research so that researchers can no longer carry on competitive research. Another is to minimise the resources to such an extent that the struggle for survival becomes the main driving force, when adaptability, deference and tactical considerations will often take pride of place. A third is to minimise the number of posts with scope for research. All three methods are being practised in Sweden today. A massive investment in education combined with bureaucratisation is resulting in many university researchers being obliged either to teach full-time, in principle, or, in the case of the professors, the most senior research posts in the system, to act mainly as administrators. Research funding is allocated today by powerful external actors according to a logic which in many cases offers individual researchers the wrong incentives. Uniformity and far too much deference to the desires of the funding agencies are two obvious hazards indicated in this report. Today not even professors have scope for research within their posts, which means that the foundations of the research universities have been virtually obliterated. This development is an international one, not solely Swedish.⁶⁷ Similar tendencies can be observed throughout Europe.

What more general conclusions may be drawn about the effects of institutional changes at micro-level?⁶⁸ How do the signals emitted by the system affect the values and behaviour of the individual researchers who account for the research in Sweden?

To begin with, it is clear that a great deal of value is still ascribed to academic freedom, in the sense of that no direction is imposed when it comes to

66. See also Marianne Bauer et al, 1999, *Transforming Universities. Changing Patterns of Governance, Structure and Learning in Swedish Higher Education*, 258ff.

67. See Burton Clark, 1995, *Places of Inquiry*, 189–190, where he writes about the German university system “the historical ideal is still able to govern behaviour when the circumstances are favourable, but for an ever-growing proportion of the system it is a misleading definition. Confusion prevails when the system as a whole attempts at the same time to provide scope for mass education and universities as institutions” (Author’s translation).

68. Cf. Mary Henkel, 2000, who in her work *Academic Identities and Policy Change in Higher Education* poses a similar question about the identity of British academics in a changing institutional structure.

choice of problem, methodology or publication, by the majority of researchers and teachers in higher education. The independent search for knowledge is defended by the researchers on the basis of central values such as long-term development, originality and motivation. These values survive more easily in a system steered mainly by researchers than in one dominated from without. Certain researchers advocate a mixed system where social direction occurs but there are also “free kitties”. But nobody is prepared to relinquish the influence of researchers completely.

Secondly, it is also clear that the researchers’ own impressions of their situation differs markedly from the positive picture of a more or less totally free research environment that existed in the early 1990s. Today many feel under pressure because of the focus on specific areas adopted by the external funding agencies and the research councils, and this is exacerbated by the virtual lack of scope for research within their posts and the drastic reductions of faculty funding. What the researchers fear most is that the current institutional structure could jeopardise long term vision and breadth, which, in the long run, would have a major impact on academic development and how Sweden is ranked as a research nation.

A third factor is that the way in which researchers not only act but also think has been affected by the institutional changes, albeit not yet their fundamental values. What is most striking is that a tactical and fund-oriented approach has begun to permeate the thoughts of the majority of them, so that the focus is placed – to simplify to some extent – on the “surface” rather than the content. The external adaptation required to secure resources, in particular the most generous grants, which are often linked to specific areas, takes its toll in the form of time, exertion and energy. At the same time, the competition at the proposal stage so acclaimed in the rhetoric surrounding current funding systems is hardly likely to encourage originality or deviation from the beaten path. External adaptation is not, however, the whole story. “Resistance tactics” are being developed on the research front in order to create room for manoeuvre to allow researchers the scope to follow their own bent, and sometimes while one thing is said, what is done is either totally or somewhat different. In this way, some degree of academic freedom is retained, even if it is more often exercised covertly than it used to be. But for many researchers it is accompanied by a feeling that they are involved in double bookkeeping.

There are differences between disciplines. The greatest concern about the disciplinary consequences of the institutional changes is expressed by those working in the natural sciences and medicine. These researchers are the ones who claim that they are motivated by curiosity rather than interest in specific questions, or in writing itself, or in problem solving in the narrow meaning of the term. If control of the funding system shifts to representatives of the community at large, there is a risk, therefore, that these are the researchers it could alienate, the “classical” researchers, as it were, in central academic disciplines. Social scientists and humanists appear to find it easier to adapt, even if many

of them do so with a feeling of resignation. The difference is an interesting one, as I believe it reflects differences in the degree of development of internal disciplinary “agendas”. In addition, those working in the natural sciences and medicine can see clearly what is unique about academic research in contrast to industrial research. Their academic freedom is worth fighting for, as they see evidence every day of how differently research can function.

Social science research has shown that norms and values are, generally speaking, less susceptible to change than patterns of behaviour. It is not surprising, therefore, to see that values linger on while behaviour is the first to alter. Historically speaking, academic culture has been very strong and academic identity has been based to a great extent on informal norms, values and ideals, elements of this culture.⁶⁹ There are, therefore, good grounds to expect discernible inertia before changes occur in this culture. Nor is the time frame we are working with when it comes to the institutional changes in research funding a particularly long one either, roughly ten years. But it goes without saying that institutional and behavioural changes will eventually influence values and norms: living in dissonance – doing one thing and believing in another – is scarcely what human beings aspire to.⁷⁰ For this reason, in the long run, there will be a process of adaptation with researchers endeavouring to make their actions and values concur with each other more than they do at the moment, at the expense of academic freedom. Research has similarly shown that institutional structures, the way things are organised, influence both behaviour and norms in creating the systems of incentives that impel individuals in certain directions.⁷¹ So the time has come to reflect seriously on the incentives structures created by the current research funding system, which I have tried to shed some light on in this work. If they are intended to encourage values such as non-conformity, creativity and autonomy in research, the institutional structures that sustain researchers must not be arranged in ways which contradict these values, which, as we have seen, is in many ways the case today. During a transitional period, admittedly, the older values and norms survive as cultures change slowly. But in the long run we must expect the institutions, which in this case are not ideal given the values to be encouraged, to “prevail” over dilatory culture.

Why today do we have an institutional structure that accords so badly with the fundamental values that the majority, of both researchers, administrators and the politicians responsible, claim to want to foster? From the political perspective it probably seems increasingly difficult to resist demands for greater transparency, democracy and consultation, even in areas where such tenden-

69. See for instance Mary Henkel, 2000, *Academic Identities and Policy Change in Higher Education*.

70. A discussion of culture and behaviour can be found, for instance, in Harry Eckstein, “A Culturalist Theory of Change”, *Regarding Politics*, 1992.

71. *Structuring Politics. Historical Institutionalism in Comparative Analysis*, Sven Steinmo, Kathleen Thelen, Frank Longstreth (eds), 1992.

cies may turn out to be counterproductive. But as the interviews presented here disclose, tipping the balance towards even more social control involves risking an obviously negative impact on those on whom the research actually depends, the researchers themselves. As I see it, any system that wants to nurture academic originality rather than conformity must be based on the initiatives of the researchers themselves. An institutional structure based on more posts which allow research and where considerably more scope is offered for basic research by radically increasing the non-earmarked funding provided by the research councils must be the objective.

Finally, what may well be too conspiratorial a reflection. On more than one occasion as I interviewed researchers in the course of this study, behind their overflowing desks, telephones ringing, constant interruptions, the thought has struck me that at the moment the system is cunningly devised to “inveigle” gifted and motivated young people into a career in research which, in the majority of cases, will turn out to be a cul-de-sac, offering no posts, no funding and no time. The real intention is to recruit full-time teachers for ever-expanding undergraduate programmes, university teachers who have nevertheless undergone research training and are therefore relatively well qualified. All this while the institutions take the initiative of abolishing the research careers that served as rhetorical will-of-the-wisps to provide their alluring goal. Not too unjust a description of a system in which the frustration of researchers becomes more and more intense.

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Interviewees

Håkan Aldskogius, Professor of medical structural biology, Uppsala University.

Gunnela Björk, Senior Lecturer in history, Örebro University.

Maria Edin, Post-Doctoral Fellow in political science, Uppsala University.

Erik Flygare, Senior Lecturer in social work, Örebro University.

Klas Flärdh, Post-Doctoral Fellow in molecular biology/microbiology, Uppsala University.

Tore Frängsmyr, Professor of the history of science and ideas, in particular the history of science, Uppsala University.

Carina Gunnarsson, Research post in political science, Uppsala University.

Håkan Gunneriusson, Research post in the history of science and ideas, Uppsala University.

Carina Johansson, Professor of medical electronics, Örebro University.

Göran Magnusson, Professor of medical virology, Uppsala University.

Kurt Nordström, Professor Emeritus in microbiology, Uppsala University.

Leif Nyholm, Professor of analytical chemistry, Uppsala University.

Per-Erik Olsson, Professor of biology, Örebro University.

Jean Pettersson, Senior Lecturer in analytical chemistry, Uppsala University.

Dag Stranneby, Professor of electronics, Örebro University.

Joar Svanvik, Professor of surgery, Linköping University.

Rolf Torstendahl, Professor Emeritus in history, Uppsala University.

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