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RESEARCH

University Research Centres, Scientific Freedom, and the Jester's Paradox

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Abstract
The key norm of good science is research integrity, which includes the freedom to inquire as an independent, self-organising system, and the responsibility to identify, frame, and engage in the problems of society, in a scientific manner. This paper investigates the challenges to scientific integrity experienced by university research centres. Research centres are organised around specific problematic fields in society and are expected to have specific societal impacts. Therefore, they are born with the paradox of being restricted in terms of scientific freedom yet required to meet science standards. As an example, we analyse the Danish Centre for Rural Research (CLF) which, like many other institutions of science and research centres, has become increasingly dependent on various external funding over the past decades. In social systems theoretical terms, research centres are hybrid organisations that operate simultaneously in the function systems of science, politics, and economy. The question is whether it is possible for research centres to uphold the requisite research integrity to provide society with truthful and critical knowledge – i.e. to uphold the necessary autopoiesis of the science function system, operating in the medium of truth – and at the same time be able to navigate in the structures of power that the centre is faced with, in terms of funding, outside control, and expectations of expectations. The medieval court jester, who was able to speak unwelcome truths to the all-mighty king without getting his head cut off, was a solution to this kind of paradox. The question is how we can handle this paradox in contemporary sciences, increasingly depending on external funding.

Keywords Research centres · Scientific integrity · Hybrid organisations · External funding · Autopoiesis of science

Freedom's just another word for nothing left to lose.
(Kris Kristofferson)

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Introduction

Lately, there has been an increased focus on the freedom and independence of science. This focus has been sharpened by several dynamics in society, of which we will here emphasise two: the transition to a knowledge society and the intensified struggle for truth.

The transition from an industrial society to not only an information society, based on the growth of information and communication technologies, but a knowledge society, generating knowledge that can be used for human purposes and development (UNESCO 2005), has placed science in a pivotal position. This has, on one hand, enhanced the expectations for the universities to have societal impact and, on the other hand, brought more attention to the development and control of the university research system by society. In particular, two means have been deployed to control universities, top-down management and more competitive research funding. The effect of these measures on the quality of science, in general, is questionable. Sandström and Van den Besselaar (2018) thus conclude that higher competitiveness on funding leads to a lower gain in research quality and that increased top-down management of universities may result in less academic freedom and, again, lower quality of research. However, these two means to control science have had very explicit as well as more subtle consequences for the conduct of research, as we will discuss below. Adding to this, the increased importance of scientific knowledge in policy and societal development has also attracted new bodies of knowledge production in terms of non-university science organisations and think tanks, financed by primary private funds and industrial actors. A few Danish examples that have a strong influence on the area of the case discussed in this paper are The Knowledge Centre for Housing Economics, an initiative from Realdania; the green think tank Concito, financed by a whole range of actors; and CEPOS, Center for Political Studies, which is an independent liberal, free-market think tank based in Copenhagen, Denmark. However, this is far from just a Danish issue. Internationally, Watson and Barnes (2022) describe how think-tank and research centres have been, especially, a means of the right-wing to gain influence on policy and the public debate, not least by means of populism.

The struggle for truth pointed out by Watson and Barnes has been ongoing in modern society since the enlightenment, but it has been, first, intensified by the growth of socially relevant and critical science and the global but very diverse debate on the role of scientific knowledge in societal decisions and, second, augmented by the emergence of social media and the growing surplus of information, which challenges the role of critical science. These dynamics make it increasingly difficult for science, as a functional system in society, to maintain its privileged position as the nexus of true and false. A position that rests on the foundational idea in critical theories of science that science can help people better understand how the world works through self-critique and methodology critique and progress toward a democratic society free of domination and oppression (Horkheimer 1972).

According to Stichweh (1996), classical universities, in a systems theoretical perspective, can be seen as the institutions of a Global Knowledge System, which already in the 16th century began to be differentiated as an independent system with self -organisation around the code of true and false:

> In this respect the university has a monopoly in controlling the access to the production of science. On the basis of this double function – first, controlling the education of every contributor to scientific publications, second, being the place where most of the significant scientific publications are written, read, commented and criticized –

> the university can meaningfully be called the centre of the system of science. (Stichweh 2022: 12)

This self-organisation and monopoly, in particular, have been challenged by the later developments and the struggle to maintain scientific freedom and the privileged function of probing true and false knowledge, including the freedom to select their own topic of research, i.e. that it is the scientific system that defines the interesting research questions and topics. However, in this paper we will focus on the challenges to the freedom and independence of science experienced by a relatively new kind of research organisation, within universities, that has arisen as part of the transition to a knowledge society, *the research centre*. The classical university structures are social systems that have as their primary goal to reproduce themselves as disciplines by means of research-based education. As a by-product of this autopoietic process, they produce graduates that can be used elsewhere. External control is mainly targeted at how many graduates are needed in different areas of society.

To meet the increasing demand for societal impact and to compete for external funding, various forms of university research centres have been established during the last decades. University research centres, in contrast to the traditional differentiation into scientific disciplines (Stichweh 2001), are organised around specific problematic fields in society. In other words, they do not reproduce themselves by producing graduates, but by producing specialised knowledge and research skills.

University research centres play a large role in the function of science in society today, and they harbour particular challenges with regard to scientific freedom and independence. Research centres are inherently devoted to a specific research field and dealing with a certain wicked problem. It is therefore not appropriate to talk about freedom in a classical university sense. But how can we then understand the needs for and meaning of scientific freedom? It does not make sense to talk of the freedom to choose the topic, but a second key point of scientific integrity is the freedom to choose the perspective and methods, and this is a crucial challenge from a research centre perspective. This paper aims to elucidate these challenges of integrity in light of the critical role and responsibility of research centres in society, based on a systems theoretical approach and illustrated by a specific example, the Danish Centre for Rural Research (CLF).

Methodology and Key Terms

The premise for the paper is that university research centres constitute a very informative case to study the challenges that universities are facing today in relation to scientific integrity and thereby elucidate how the modern knowledge society has become an important battlefield between science, interests, and populism and show the paradoxes that university research is met with. We have chosen to focus on the Danish Center for Rural Research as it represents most of the dilemmas and challenges that societally engaged science is facing and thereby is an exemplary case to understand the complexity of the global dilemma of the integrity of science. Luhmann's systems theory offers, we claim, a very strong analytical perspective on this dilemma, where integrity can be understood as the science system's own right to define what is true and false – that this cannot be judged by the binary codes other function systems (Luhmann 1990: 192, 194-5). We supplement Luhmann's theory of communicational, social systems with the theory and concept of 'umwelt' from von

Uexküll (1982). The umwelt is the phenomenal world of an animal, or any observing system, i.e. the world that it can perceive and which is meaningful to it (Alrøe and Noe 2012). In the following, we introduce some of the key terms of the paper – research centre, scientific freedom, and research integrity – and discuss how they can be applied in the analysis of the challenges of integrity to research centres and to the function of science in society more generally.

Research centres come in many shapes and colours, and the organisational forms vary. Centres may arise as internal differentiations at universities, faculties, or departments as profiling measures in response to specific, major issues of society, such as climate change, sustainable food production, or cyber security. The creation of research centres can also be driven by public or private research funds that offer grants for establishing centres of excellence, or they may arise as governmental research institutions. Organisationally, research centres can be everything from loosely coupled networks and specific project organisations to financially and legally independent organisations. Usually, public research centres are connected to universities to ensure scientific quality and integrity, and our focus here is on such centres, which we call university research centres. Some such research centres may to a high degree resemble traditional university departments. Still, the centres rely on raising funds for research activities, and therefore they need to operate in the competitive market for research funding.

Generally speaking, research centres are always born out of a specific, often very complex, problem area that society faces, and thereby also out of specific societal interests, and they are expected to have a specific societal impact. Hence, the question of scientific freedom takes on a different character for research centres. Scientific freedom in the classical sense of the freedom to engage in scientific inquiry, pursue knowledge and communicate openly (AAAS 2017), where researchers are free to choose their own topic of research, is not fully an option at research centres, which by definition are dedicated to a certain problem area. Within these limits, the freedom to choose a specific aspect of the problem and methodological freedom, etc., may still apply, but this freedom is still subject to the need for funding. What does apply and should apply, though, is research integrity, including the requirement to conduct research in a manner that allows it to be examined to ensure trustworthiness, credibility and reliability (Ministry of Higher Education and Science 2014). The AAAS (2017) statement thus speaks of two "inextricably linked concepts", scientific freedom and scientific responsibility, where the latter is responsible for conducting science with integrity in the interest of humanity and the environment. We pose that scientific responsibility in this sense has been disregarded in the recent public debate on scientific freedom, and we propose to use research integrity as a broader, overall concept that presumes and includes freedom and responsibility. Research integrity thus includes all three aspects, the freedom to inquire as an independent, self-organising system, the responsibility to identify, frame, and engage in the problems of society, and the requirement to conduct research in a scientific manner.

In terms of knowledge communication and the struggle for truth in society, research centres compete with consultancy companies, non-university research centres, and think tanks, which are designed to provide the results in demand quickly and smoothly and covered in a scientific veneer, but without the fundamental requirements of integrity, self-critique and methodology critique. Research centres also compete with interest groups and their lobbying activities, who often have large financial resources to promote their cause based on their particular perspective. Even though lobbying organisations cannot be blamed for their lack of scientific requirements such as integrity and self-critique, they are often used as the main source of knowledge because it is convenient in a still more complex society.

With regard to scientific freedom, research centres are thus born with a paradox, namely that of being restricted in terms of scientific freedom yet required to meet the standards of science. In light of the ongoing and intensified struggle for truth in society, this raises the questions of what the conditions are for such so-called research centres, what roles they are to play in society, what paradoxes they have to navigate, and how they fit into the research system and the knowledge communication in society. Both authors have long experience in working within different kinds of research centres inside and outside the university systems, and this paper draws broadly on these experiences. However, as stated, we will focus on the Danish Centre for Rural Research (CLF), which one of the authors has the pleasure of heading, as an example of just such a research centre, which is faced with these questions and the need to reflect on the conundrums of scientific freedom in the knowledge society of today.

Below, we first give a brief description of CLF as an organisational system in the system of science, and of the umwelt of CLF. Based on this, we analyse the power exerted on such research centres and the consequences for their scientific integrity. Finally, we show how this can be characterised in terms of the Jester's paradox, and what the implementations are for the scientific freedom of research centres and similar systems of science directed at societal problems.

The Danish Centre for Rural Research as a Case

On the CLF homepage, it says, "The Centre for Rural Research works to provide professional knowledge about what the good life is in the countryside, as opposed to the city, and what factors are important for it to be created and maintained. Our research results must be able to be used in practice for the benefit of people living and working in rural areas".

CLF was established with a yearly grant of 0.34 m € in 2002, in a cooperation between Landdistrikternes Fællesråd (a national interest group for rural areas), the Ministry of the Interior, and the Ministry of Agriculture. Until 2007 it was organised as a legally independent unit with its own board, appointed in cooperation between the ministries and Landdistrikternes Fællesråd. In 2007 it was merged with the University of Southern Denmark, first as an independent department, later integrated as a part of The Department of Sociology, Environmental and Business Economics. Over the years, the government grants have been reduced to first 0.27 and later 0.20 m €.

In the following, we will describe the complexity of the umwelt of CLF. By using the term umwelt we mean to focus the analysis on the actors, organisations, and systems that CLF observes as important to cope with for the sake of its own autopoiesis, and to form structural couplings with, in order to obtain societal impact. For ease of comprehension, we divide the umwelt into different categories: stakeholders, policy landscape, funds, universities and the scientific community.

Stakeholders in the CLF Research Field

The research of CLF is about, and for, the rural areas. This encompasses everything from local communities through municipalities and regions. In terms of structural couplings, these stakeholders play a dual role. First, a great deal of the CLF research includes these stakeholders in data collection, they are so to speak the subject of our scientific observations. Second, it is also expected that our research will have an impact on their livelihood.

The societal impact of the research is therefore to a large extent dependent on the main stakeholders observing and gaining knowledge about the conducted research.

Furthermore, and interrelated to the direct stakeholder roles, these actors are also important voices in relation to the general semantics of rural development and livelihood. This includes the semantics on how to understand the problems and solutions in relation to rural development and how to frame the rural against the urban.

Last but not least, municipalities and regions are also potential sources of finance, where CLF is competing with consultancies for problem solving tasks.

Policy Landscape

The policy landscape of CLF is quite complex. Here, again, it makes sense to distinguish between the actors and the semantics of the rural.

A main policy actor in this field is Landdistrikternes Fællesråd, an interest group and lobbying organisation that assembles a wide range of actors from municipalities, business organisations, NGOs, etc., with varying, and sometimes conflicting, interests. The president of Landdistrikternes Fællesråd is also a member of the board of CLF.

Another strong policy actor is Landbrug & Fødevarer, which is the lobbying organisation of the entire agriculture and food industry. Though agriculture plays a rapidly diminishing role in rural economy and livelihood, the policy impact of this lobbying organisation is still enormous and they have a strong voice in regard to setting the agenda and forming the semantics of rural development in Denmark.

In relation to the government, rural development is not the true offspring of any ministry, and it has been oscillating between different resort ministries over time, from the Ministry of Agriculture to the Ministry of the Interior, Ministry of City, Housing, and Rural Areas, and Ministry of Business, and now back to the Ministry of the Interior and Housing. Furthermore, it has circulated between different authorities and now belongs to the Danish Housing and Planning Authority.

The Rural Districts and Islands Committee of the parliament is another very important stakeholder and policy organisation in relation to CLF. The committee plays an important role in relation to the decision of continued financial support to CLF. It is also an important receiver of the policy recommendations that the research at CLF produces, but in this respect, CLF is competing with the lobbying by other policy actors, who are not under the obligation to present a transparent truth.

Public and Private Funds

The research and communication activities at CLF rely almost exclusively on external funding, and here it is relevant to distinguish between different kinds of funds:

Traditional public funds that fund research activities are generally not very relevant for CLF and other field-orientated research centres. Furthermore, the competition for these funds is becoming harsher and harsher. It is mainly the Danish Council for Strategic Research that can be relevant for CLF. However, they are often very goal-oriented in their calls, focusing on technically solving concrete problems in a way that does not fit well into the objectives of CLF.

Targeted public funding for rural research is small but important. The ministry presently devotes 0.20 m € annually to research in rural development. This funding can be applied for by all public and private bodies doing research.

Private funds generally play an increasing role in the Danish research landscape. All in all, in 2021 they distributed more than 0.47 billion € to Danish universities, out of a total research budget of approximately 2.1 billion €, and a total turnover of the Danish universities of 4 billion € (Universities Denmark 2022). Private funding of university research has increased from 0.2 billion € in 2011 to 0.47 billion € in 2021, and obviously has a large and increasing impact on the research activities of universities. To further contextualise the impact of private funds, the biggest 10 funds distributed 2.5 billion € in 2021 (Fondenes Videnscenter 2023), a figure that also has increased considerably over the last decades. As elaborated below, these funds are also establishing their own research centres directly or financing non-governmental research centres and think tanks.

EU funding is very relevant and important for CLF. Contrary to the Danish public funds, many of the EU calls are relevant from a rural development perspective. However, the demand for internal capacity and internal funding needed to apply for these funds is much higher, both in relation to network capacity and administrative capacity.

Think Tanks and Non-University Research Centres

As described by Watson and Barnes (2022), establishing think tanks and non-governmental research centres has increasingly become a means of funds and interest organisations to influence knowledge production, public debate and policy, and this is not least the case of the umwelt of CLF. As already mentioned, there are a number of such think tanks and non-university research centres that have a strong influence on the public discourse of rural development.

The University

For university research centres such as CLF, the university constitutes the administrative and organisational context of the centre. As mentioned above, centres can be born out of specific strategic interests of the university, with an aim to become more visible in the encompassing world or to attract money from external funds, or both. In systems theoretical understanding, university research centres constitute an internal functional and organisational differentiation, and are as such, both part of and umwelt to the university as an organisation. As mentioned above, CLF did not emerge within the university but merged with the university, mainly due to a decision made by the ministry. This means that CLF has to prove its relevance for the university continuously and procure its own financial resources. Still, the main economic engine of universities is education, and research centres will always be rejected if they are not able to raise their own money, add to the university profile, or in other terms be relevant to the university as a parent organisation. This said, there are many actual and potential synergy effects between research centres and their universities.

The Scientific Community

The encompassing scientific community plays a double role for CLF. On the one hand, the other researchers and research organisations within the greater field of rural research and

related fields, are important for the production and reproduction of the scientific field. On the other hand, in line with the increasing commodification of research and reliance on external funding, other researchers and research organisations are becoming key competitors for the resources necessary to sustain the basic research activities at the centre.

Summing Up

As it will be clear from this brief analysis, the construction and the context of CLF is quite complex and may thus mirror many aspects of what university research centres are facing. Organisationally, a research centre such as CLF could, at first, seem like an almost perfect construction to obtain societal impact in a very resource-effective way. However, the question is whether it is possible to obtain the requisite research integrity to obtain a real impact or whether the research simply becomes an echo and legitimation of what is already going on. Put in another way, the question is how useful that platform is, if what and how it is to observe is determined by the encompassing world (which, in effect, means that the centre cannot protect its scientific autopoietic integrity and at the same time survive as a research centre economically). In the next section, we will analyse some of the mechanisms that violate the autopoiesis of CLF, ranging from transparent control to more subtle or hidden mechanisms.

The Power Exerted on Research Centres and the Consequences for Their Scientific Integrity

In the following, we will analyse the conditions for research centres to maintain research integrity. What are the mechanisms that manifest themselves as power to control what kinds of research are carried out in research centres? We will explore this by looking into what kinds of power we are exposed to in the Centre for Rural Research (CLF), in relation to topics and research methods.

Again, we will apply a systems theoretical approach. First, we look into what kind of function system codes dominate in the organisation of the research centre. Next, we analyse the role of general semantics in relation to the main field of research, what kinds of semantics are dominating the field of rural development, and how these, directly and indirectly, frame the conditions for activities and decisions at the centre. And finally, we analyse how this power manifests in the decision-making of the centre and, thereby, in the centre's ability to reproduce its own operational closure.

Research Centres and Function Systems

As a point of departure, we pose that research centres are hybrid organisations that operate simultaneously in more than one function system, though we initially must expect the scientific system's code of true/false to be dominating (cf. Luhmann 1990: 184), operating, e.g. in peer evaluation and scientific publication. The question is, however, whether the codes of other function systems are taking over. Of course, this may vary from centre to centre, but at least in the case of CLF we can see the political and economic systems obtaining a hegemonic position in relation to the operation of the centre.

Politics as a function system operates in the medium of power from the code of government/opposition (e.g. Moeller 2006: 29). Rural development and the underlying struggle between centre and periphery has become an increasingly hot topic in policy, both for the government and for the parliament, and problems and solutions are, to a high degree, dependent on the political orientation. As described above, the CLF centre was established by the government in 2002, with a public support of 0.34 m € yearly. In the following years it has been attached to different ministers under different governments. A board was formed with representation from the ministry, to make sure the money was spent according to the expected function of the centre. Right from the beginning, the centre was also expected to raise money from other sources to approximately double the yearly turnover. In 2016, under the right-wing government, the area of rural development, and thereby the authority controlling CLF, was moved to the Ministry of Business. This had two important impacts on the framework conditions for CLF. First, rural development became synonymous with business development and entrepreneurship. This entailed that tourism was seen as the big saviour of the rural areas. Second, for ideological reasons, the government decided that the money devoted to rural research should be exposed to competition on a yearly project basis, open to all relevant public and private research or research-like organisations. But the competition did not include the hosting of the centre. In effect, this meant that the economic basis for CLF was eroded and thereby also that the general interest of SDU to host and support the centre economically diminished. In the following period, CLF tried to reverse that decision, drawing on every possible political contact. It managed to get the opposition to put out a proposition to reintegrate CLF into the financial budget, but this, at first, failed, and one of the arguments from the parties voting against it was that CLF had not been sufficiently visible in the public and political debate. When the power of government changed to the opposition, CLF was again to be found on the budget, now with annual support of 0.20 m €. To receive this funding, CLF every year has to negotiate and agree on a Goal and Results Plan, which in principle, has to be accepted by both the resort ministry and the Rural Districts and Islands Committee. In reality, this functions quite smoothly and pragmatically, but it is a very complex policy environment to navigate within. CLF continuously has to prove its relevance and impact, which means that it has to translate science communication into policy communication. Furthermore, the situation is quite fragile since the sustenance of CLF can be reduced overnight due to changes in government. This means that the sustainability of CLF has become more and more dependent on other sources, but also that there are stakeholders that work as ambassadors for CLF, fighting to establish the policy relevance of the centre.

As explained above, CLF has become increasingly dependent on external funding from private and public funds over the past two decades. Apart from the specific history of CLF, this has become a general condition for the institutions of science and for research centres in particular. An analysis of how the codes of the economic function system gains hegemony in science could, in itself, make up a very long section, so here we will only come up with a few illustrative examples. A potentially crucial public funding source is GUDP (The Green development and demonstration program), which in principle, is very thematically relevant. Here the hegemonic semantic code is the return of investment and coherently the impact on solving a specific problem. As an essential part of a successful application, you have to develop a concrete business plan and estimate the expected short and long-term return on investment. Private funds is another story, and though the economic codes are less visible here, you could say that the dominating code is branding/not branding the mother organisation of the funding body.

Semantics

The semantics of rural development is an arena for strong power struggles, inhabited by many different perspectives that strive to obtain hegemony. Semantics does not directly impact on the economic funding of research, but indirectly it may have a strong impact, both on what it is economically and politically worth spending money on and on how to understand rural issues and development. The semantics of rural development becomes very complex because the rural issues and the centre-periphery relation encompass so many different spheres.

Two interesting aspects are, one, the contribution to this communication by the many interest and lobbying organisations, as already discussed above. And two, that it involves other semantics of a much more overarching character, not least of which is the neo-liberal semantics of individualisation, which has a huge impact on how to understand problems and solutions in rural development and the all-encompassing semantics of globalisation, climate change, etc.

How Does Power Manifest in Relation to the Self-Organisation of Research in CLF?

In order to survive as a research centre in a very complex umwelt, as described above, one must maintain autopoiesis based on the primary function of science as a provider of truthful and critical knowledge and, at the same time, be able to navigate in the structures of power that the centre is faced with. These power structures can be categorised into three levels in accordance with how visible and manifest they are: framework conditions, outside control, and expectations of expectations.

Framework conditions are the most manifest and the least forgiving of the power structures. The economic framework condition is thus quite transparent: get funding or die. If you do not adhere to this form of power, you cannot exist as a research organisation. It is a matter of clearly visible calculations on the one hand and conditions that are completely outside the influence of the centre on the other. This condition is exacerbated by the fact that research centres are competing with organisations that resemble scientific institutions, but are not, and which do not have to meet the requirements of scientific integrity that university research centres must.

Outside control is the price for institutional and economic support. It is something that irritates the autopoiesis of the centre, such as delivering reports, time registration, system control, etc., but which the centre can observe and adapt to. This is where the codes of other function systems manifest themselves and irritate the research system autopoiesis. Control is something that you can be blamed for if you do not meet the requirements, and control entails reaction and the exertion of power. A less manifest but equally important form of power is the semantic control that operates by way of determining which agendas are in force, which questions and problems are relevant, and which buzzwords are in focus. This is also the basis for the next level.

The expectations of expectations are the most important but also least visible of the power structures treated here. This form of power is based on communicational alignment, self-discipline and self-control. In order to act successfully in it's environment, CLF as a centre needs to understand the expectations that are communicated in research calls and political statements and adjust it's communication to what it expects these expectations are. If you do not adhere to this form of control, there is no reaction, you are not corrected, but you will nonetheless meet the consequences.

Summing up, there is a range of mechanisms at stake in the power relations between the system and umwelt. However, the most challenging may be the more invisible self-disciplinarian mechanisms of adhering to the expectation of expectations. On the one hand, they work invisibly. On the other hand, without this self-discipline, you will not survive. This is what we find highlights the paradox of scientific freedom in relation to research centres. In order to exercise their scientific freedom and do critical scientific research, they need to compromise that very freedom. In the extreme, they end up being a mere mirrors of their framework conditions, which means the centres completely lose operational closure and autopoiesis, and thereby also the fundamental meaning around which they organise themselves in the first place. This paradox we will discuss as a synthesis of this paper in the next section.

The Jester's Paradox – a Discussion

The self-image of science is that of a unique societal institution that independently and skilfully searches for truth and knowledge. This image works both as hallmark branding and as a guiding star. However, neither truth nor knowledge are innocent concepts. In today's knowledge society, the political system and the economic system increasingly seek to control science and science communication in society. In contrast to the image of free and independent science, science is rigorously directed by public and private funding towards specific societal goals prioritised by the political system. As shown above, this is undoubtedly the case for science in the form of research centres. The function of science is here torn between self-referential meanings and irritations from the umwelt in an ongoing struggle for truth.

From the outside, scientific truth is challenged by rivalling claims of professional truth from interest groups in society and fast and smooth truths from consultancies, neither of which are bound by scientific methods. From inside, the differentiation of science into specialised scientific perspectives sometimes leads to competing accounts of scientific truth that cannot be reconciled on a common aperspectival ground (Alrøe and Noe 2014). And these necessary perspectival truths of science are often seen as a weakness in the power struggles between truth and opinion in society.

In addition to these, often spectacular, battles for truth across the borders of science, there are the more inconspicuous struggles for truth that take place in research organisations, which we have demonstrated in the particularly lucid example of research centres and exemplified in the case of the Danish Centre for Rural Research (CLF). These are more or less invisible struggles embodied in the workings of science, where scientific codes, semantics and imaginations compete with codes, semantics and expectations propelled by other social systems such as financial bodies, interest groups, and policymakers.

Struggles of power and attention are commonplace in society, so why is this a problem, one may ask? We maintain that this is indeed an important dilemma for both society and science and that the research centre, as a particular mode of science, is a key case to illuminate and discuss this dilemma because research centres are established precisely to help solve societal problems and in this way condense the function of science in society. The dilemma can be approached in two interconnected ways, from the viewpoint of society and the viewpoint of science, respectively.

In social systems theoretical terms, the long-term survival capacity of society is closely linked to its capacity for being irritated by crucial differences in the umwelt. Science, with

its specialised, discerning perspectives and powerful means of observation, has a key role to play in this, in that it allows society to be irritated by new things in its environment and attain a better understanding of its 'umwelt', in Jakob von Uexküll's sense (Alrøe and Noe 2012). For society, it is therefore important to have science as a function system that operates in the medium of truth and discerns the truth from the untrue. From the viewpoint of science, it can only maintain and reproduce itself as such a system if it is able to operate in truth. If other codes, semantics, and expectations interfere with the workings of science, and political, economic or ideological concerns are allowed to dominate, science can no longer function as the system that probes true and false. Hence the concern for scientific freedom and research integrity.

To illustrate the dilemma, we, as researchers with a long history of working in research centres and similar 'science for society' kinds of research environments, are compelled to ask: are we court jesters or just useful fools? In medieval times, the king was elected as a *primus inter pares*, and speaking truth to power could lead directly to a challenge of the vote for the king. Hence, the king could not risk being shown wrong, and people who questioned him thus risked becoming one head shorter. Yet it was essential that critically wrong perceptions could be corrected. The court jester, therefore, was an important figure who was able to handle this paradox by giving critical feedback to the king in a humorous way. We suggest that this *Jester's paradox* applies as well to science in society, especially in the form of research centres: science is needed to solve societal problems and relies on societal funding to do so. But critical and truthful approaches that question the preconceptions, privileges, or purposes of the funding sources may well lead to a cut of this funding. And given the internal differentiation of science, there may well be other, more compatible research approaches offered by competing research groups, which may be funded instead. Or, the hitherto critically inclined research centre may revise its research goals to better fit what is requested by the funding bodies. In any case, critical perspectives and deeply needed but unwelcome truths will be lost to society.

Given that science today is bound by the quest for external funding and formed by the necessity of internal differentiation, as accentuated in the form of research centres, the question is whether, and if so how, science can fulfil the role of the court jester, who is able to speak the truth to the economic and political powers of society. Or whether science is left with the role of the useful fool, who, unwillingly or unwittingly, is used for authoritative support by different fractions in the power struggles of society. For science, as a whole, playing the fool will undermine its privileged and authoritative position by eroding the function of science in society, while taking the role of the jester will lead to intensified confrontations with societal organisations that propel other versions of truth that may be in higher demand – and a higher risk of losing funding and, ultimately, closing down. Research centres, in particular, who rely mostly or entirely on external, competitive funding, will have to find creative ways to play the part of the jester if they are to survive – unless they are satisfied with playing the fool, in which case their long-run usefulness for society will be doubtful. At the same time, they almost certainly will contribute to the degradation of the institution of science.

Freedom's just another word for nothing left to lose, Kris Kristofferson wrote in his song "Bobby McGee", and so it is for science. The entirely autonomous science, which is totally free from societal irritations and thoughts of societal well-being, has nothing to lose in regard to societal impact. But research centres and similarly socially concerned systems of science do have something to lose in this regard, and society has something to lose if such science is left to play the fool. Much depends on whether society can grasp scientific

freedom in a way that allows science the jester to play the game of truth in the halls of power.

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