The Challenges of

Arts

and humanities

Content

Introduction

Two Stories of the Arts and Humanities – and a
Third Version Emerging

Gunhild Agger
Lone Dirckinck-Holmfeld
Antje Gimmler
Falk Heinrich
Tytti Soila

During the past few decades, the arts and humanities in the Western world have been challenged by a strange contradiction between two very different stories about their raison d'être and value. The first story focuses on the expansion of universities, including the faculties of arts and humanities. The second story is dominated by a feeling of distress prompted by the constant questioning of the usefulness and applicability of the arts and humanities. As the contributions to this volume of *Academic Quarter* indicate, however, a third story may be about to emerge.

The Story of Success

It goes without saying that an expansion of historically unseen dimensions has taken place in higher education since the 1930s, accelerating during the 1970s. In terms of growth in student numbers and in the range of subjects and institutions, this development is exceptional. According to Collini, for example, there were 21 universities in the United Kingdom[1] in 1939 with 50,000 students. Today there are 130 university-level institutions with 2.25 million students (Collini 2012, 26 ff.).

An important context for the spectacular expansion of higher education was the student revolt during the 1960s and 1970s. The 1970s in particular saw a vigorous movement in the arts and humanities towards embracing the social sciences. Cross disciplinary studies were launched, the motto 'Research for the people, not for the profit' was widely adopted, and new universities with new agendas and new models of teaching were founded.

Since then, a new movement has combined universities with other higher education institutions or, in the case of Denmark, established public sector research institutions. Today, cross disciplinary studies have been redefined, and the dominant agenda focuses more on creative industries, commercial benefits and employment than on education per se. In terms of society, the idea of research for the people has been transformed into the concept of 'societal impact'.

This development can be observed everywhere, but it took different forms and was implemented at different times. The overall ambition has been to conform to the standard university model, outlined by Collini. This model prefers to be national rather than local, to offer a full spectrum of subject fields, to offer postgraduate as well as undergraduate degrees, to support research as well as teaching and to invest in autonomy and prestige (ibid.). Regarding the range of subjects, the arts and humanities have expanded with the rise of what was labeled 'the new humanities', such as linguistics (including programmes for computer assisted translation) and a wide spectrum of media and communications studies. During this process, the arts and humanities have participated increasingly in cross-disciplinary research and contributed to the development of various emergent research fields in collaboration with both the social sciences and the natural sciences. As a result, new hybrid disciplines such as cognitive science, humanistic informatics, science technology and society (STS), and design studies are now transgressing the traditional divide between the natural sciences and the arts and humanities and between the humanities and art and crafts.

In spite of backlashes and repercussions, not least in the United Kingdom, the overall development highlights the democratization of education. It is a testimony to the benefits for the individual as well as for society of the great educational movement. However, this movement has also occasioned a second story.

akademisk
academic **quarter**
kvarter

The Story of Doubts

The second story can be labeled *the story of doubts*. The societal esteem and the self-esteem of the arts and humanities have not prospered as could be expected from the story of success. Instead, questions abound about the usefulness, quality and relevance of the arts and humanities. This is the background for a paradox that has often been noted: never before have teaching and research in the arts and humanities been so comprehensive, and never before have the arts and humanities suffered so severely from a lack of confidence and from doubts about identity. It is hard to say to what extent this phenomenon derives from actual difficulties in predicting the applicable outcomes of humanistic studies. The quest for knowledge and understanding seldom reveals in advance the answers to 'what' and 'why', let alone how and where these answers may be found. Such uncertainty does not appeal to 'quick fix' oriented political investors.

The historical turn from ideas of education and 'Bildung' (cf. Gimmler, this volume) to ideas of the market place based on competition and profitability was launched by Conservative governments in the United Kingdom from the 1980s onwards. Higher education per se was no longer considered 'a public good'. To an increasing degree, universities were seen as actors in a competitive marketplace, where customers were attracted and where the market mechanism largely regulated how and what was taught. Later, in the United Kingdom, the idea of 'societal impact' was promoted as an important standard of judgment in the assessment of the value of research (cf. Nelson in this volume). This idea had many implications for research proposals and the way in which researchers organised networks, as well as for their chances of career survival and consequently for their prospects of teaching at all.

Concurrently, the natural sciences and engineering seem to have acknowledged the importance of the topics (e.g., culture, meaning making) and methods embraced by the arts and humanities. These methods can analyse and contextualize the individual and his/her subjective and social dimensions in ways that are useful, for example, to product development and to technology. Many natural science and engineering disciplines have incorporated knowledge that was previously an inherent part of the arts and humanities.

In Denmark as in the United Kingdom, the arts and humanities have been through troubled times. In 2014, Sofie Carsten Nielsen, the former minister of higher Education and Science, demanded regulation of the number of university students, first and foremost dimensioning the Arts and Humanities and the Social Sciences. The primary argument was the need to reduce unemployment. This was a plausible argument that appealed to common sense as well as public opinion. The minister's arguments had been carefully prepared by the *Commission for Quality and Relevance in higher Education and Science* (Reports April and November 2014, last report January 2015).[2] However, the homework done by the ministry was not impressive: the unemployment rate is not the same for all candidates and regions, and the methods of estimation were dubious. It took great efforts to achieve a milder model of dimensioning, which was implemented in 2015. Nevertheless, universities can expect consequences in the shape of the downsizing of staff in the years to come in the United Kingdom, in Denmark and beyond.

In Finland, the University of Helsinki is facing demands for cutbacks amounting to 106 billion Euros per annum by 2019-20. 570 administrators and teaching faculty staff lost their jobs during the spring of 2016 and a further 300 are expected to leave by the end of the year. The wider consequences are yet to be seen. Surely, however, in times of economic crisis and increasing unemployment rates, the consequences of political decision-making are uncertain: as recently as 2009, the Swedish parliament decided on an extra budget of 8.4 billion SEK to create an additional 23 000 opportunities for new students during 2010 and 2011. However, this parliamentary decision was overruled by the next cabinet, and another wave of cutbacks in student numbers commenced.

The initiative of the Danish minister of higher Education and Science was thus part of a common trend. Reports on quality in higher education have become a vast genre that continues to grow. On a global level, evaluation reports of all kinds are produced and proposals are formulated to downsize the arts and humanities.

In spite of the overall trends, analyses and political solutions do differ somewhat, depending on the country and the context. The debate about the challenges facing the arts and humanities has not only spurred reports from various commissions set up to investigate the above-mentioned questions, but also a number of scholarly

contributions. These contributions indicate that the common challenges prompt different analytical results and different political solutions in different countries and contexts. This is the case even within the Scandinavian countries, which are so similar to one another, and also in the United Kingdom.

Usefulness and legitimacy

It might be useful to venture a constructive rephrasing of the question 'What is the use of studying the arts and humanities?' The modified question would be 'Which needs in society do the arts and humanities respond to and accommodate?' In this context, it is worth emphasising that the idea of higher education as 'Bildung' has not been totally abandoned. It is even defended – for instance by Martha Nussbaum. The title *Not for Profit* (2010) directly illuminates her point. She assumes that the purpose of higher education is not profit, but the individual and common good: "Education is not just for citizenship. It prepares people for employment and, importantly, for meaningful lives" (Nussbaum 2010, 9).

The option of rephrasing mentioned above is thoroughly scrutinized and discussed by Helen Small (2013) on a historical basis. Warning against comparisons between incommensurables, her last chapter "On Public Value" presents a number of core reasons why the humanities have public value. They include the argument that the humanities make vital contributions to the understanding and maintenance of culture and democracy (Small 2013, 174 ff.).

On the one hand, then, the usefulness of the arts and humanities is fairly obvious, as Nussbaum and Small suggest: our society would be badly off without knowledge of languages, history, culture, media, technology and ethics, all of which are connected to our existence as human beings in society. On the other hand, the legitimacy of the arts and humanities, the value of their contribution to society and their impact on the economy are constantly questioned. The consequences of this doubt have manifested themselves in difficulties affecting funding and decreasing recognition of the arts and humanities, which has resulted in considerable downsizing, diverse forms of crisis management and, as a consequence, renewed questioning of the arts and humanities in general and in particular of the validity of the various subject fields, of the research and teaching methods and of the results achieved.

However one phrases the question regarding the challenges facing the arts and humanities, several answers may be offered. The primary aim of this special issue of *Academic Quarter* is to confront shared challenges and to compare different analyses and possible answers. The second aim is to identify and discuss the societal challenges, possible objectives and roadmaps that are relevant to the arts and humanities.

The volume is divided into two sections. The first section addresses the "Historical positions of Arts and Humanities in society: criticism, control and collaboration". Here, the overall question is discussed at a general level. The aim of the second section "How to reinvent the Arts and Humanities: Defining disciplines and cross disciplinary developments" is to discuss a possible renaissance of the arts and humanities, focusing on different disciplines and cross disciplinary developments.

Historical positions of arts and humanities in society: criticism, control and collaboration

The double story of the arts and humanities is expanded and further developed by Anders Ekström in his article "A Failed Response? The Humanities in Transition". The aim of his article is not only to map common types of reactive critique in academia and to refute their relevance, but also to present the contours of a viable alternative. In the light of the deep crisis at the beginning of the 21st Century, Ekström points to the necessity of a new "generative critique" that would focus on "the transformative power of knowledge in contemporary societies". In this connection, he foregrounds three salient renewals: 1) redefining impact definitions, 2) reconsidering knowledge policies and 3) rediscovering the role of universities as public institutions and their importance in shaping public culture.

The historical and philosophical background against which this rediscovery can take place is further pursued by Antje Gimmler. To what degree are the 'new' humanities still covered by the traditional ideals of 'Bildung' and 'pure science'? This salient question forms the point of departure for an article in which Humboldt's university reform is revisited. Gimmler pursues the idea that higher education provides its citizens with a national awareness that takes the form of language, culture and mentality, and she argues that Humboldt's thinking was revolutionary: if they were disinterested in what pur-

pose their education could serve, students would learn to gain the autonomy to fulfill different purposes in the long run. Unlike Humboldt, however, Gimmler evokes the contemporary practice turn and a radical version of the practice orientation developed by the classical pragmatist John Dewey. Dewey's approach is understood as an open and experimental process between the individual and the environment. From Dewey's point of view, 'Bildung' and 'science' do not exclude purposes and social and cultural needs.

Current policies at universities in England, Scotland and Wales are interesting in their own right. From a Nordic point of view, however, these policies are particularly interesting in the light of the United Kingdom as a first mover. Trends and university policies from the United Kingdom will inevitably inspire policies elsewhere and eventually spread – not necessarily in the same form or with the same consequences, but always available to serve as an inspiration. In his contribution, Robin Nelson addresses three related concerns: 1) the worth of the arts, 2) the impact of research audit culture in the United Kingdom, and 3) the idea of practice as research within that culture. With a point of departure in the observation that universities and academics do not generally welcome research audit culture, Nelson maps some developments in this culture. Scrutinizing 'impact' as a new dimension that appeared in 2014, Nelson argues that it can function as a valuable link between 'the academy' and 'the professions'. Similarly, Nelson sees practice as research in a positive light because it opens up to a multidisciplinary context.

Falk Heinrich's article reflects on the role of aesthetics in multidisciplinary research projects. It discusses the potential of fiction and fictionalisation in a multidisciplinarity that is characterized by sensemaking processes on two intertwined levels: the procedural level of the research project and the level of the project's subject matter. On the process level, aesthetic contributions to sensemaking are seen as the fashioning of heuristics that serve the multilayered and creative interaction between the meaning-producing participants. On the level of the subject field, aesthetic competences generate spaces of potentiality through restrained conceptualisation and recognition processes that open up intermediary spaces of *non-sense*. These spaces are seen as necessary for the emergence of novel solutions to complex social challenges.

akademisk
academic **quarter**
kvarter

How to reinvent the arts and humanities: Defining disciplines and cross disciplinary developments

Birthe Mousten and Anne Lise Laursen present the linguistic field of Language for Specialized Purposes (LSP) as a humanistic discipline that is inherently cross-disciplinary. The task of specialized languages is to cut out a well-defined piece of the world by using a precise and common terminology that is used in trade and industries as well as in science and technology. However, cultural contexts and the different cultures of professions and disciplines make a one-to-one translation impossible. Mousten and Laursen argue for an academic approach to specialized language that can take into account the contexts, registers and different back-ground cultures that constitute meaning. Terminology, lexicography and textual linguistics are the sub-fields of specialized language where, as Mousten and Laursen show, humanistic research contributes to the ever more demanding task of enabling meaningful and useful communication across disciplines, experts, layman and society.

Karl Erik Schøllhammer considers the cross-field between art and science. His article addresses the challenges that contemporary history poses for Latin American and Central American artists who articulate their societal and political engagement. Schøllhammer shows how artists' commitment to social and cultural content amplifies the reach of scientific engagement and stimulates its search for a performative impact through enhanced visualization and sensible materiality, thus redefining the borders between critical research and artistic creation and realization.

Chunfang Zhou, Hui Zhang and Lene Tanggaard Pedersen's article examines the creativity found in craftsmanship as a complex and context-based phenomenon characterized by a range of socio-material aspects in practice. This article's subject field is but one example of the need for cross-disciplinary research that includes disciplines such as psychology, cognition, arts, humanities, design, and learning.

Bolette Rye Mønsted's contribution draws on her PhD thesis *Ad nye veje* [Finding New Ways], in which the specific higher education study programme of Humanistic Informatics is explored as an example of the development and future of humanities. Mønsted develops a methodologically and theoretically based mapping design in which the complexity of the development can be understood and

explored, and she documents how the relevance of the educational programme is closely associated with technological development. The example of the social media is used to underline the importance of an increasing humanistic focus on digital media and technology development and of the need for humanistic perspectives, methods and theories in the collective understanding and development of interpersonal user aspects in the social media.

The educational aspect of *pondering* as a core concept and competence is addressed by Frederikke Winther, Thomas Duus Henriksen and Gorm Larsen. For many years, the arts and humanities have been under political pressure to adopt the more solution-oriented attitude of hard science. Students have quickly adopted this trend, and they are requesting classes and tools for quick-fixing rather than activities that facilitate deep learning. Winther, Henriksen and Jensen argue for a two-sided approach where critical reflection through pondering is in dialogue with and mutually supportive to problem-orientation. The article refers to an experiment that employed learning portfolios as a student-driven tool for facilitating the reflective pondering that is necessary for the development of a professional identity. The portfolios helped participants to become academic, reflective students.

How do horror games so effectively foster immersion? Why are certain psychophysiological responses predictable in connection with horror games? These questions have been posed by media psychology as well as game studies. Taking their point of departure in the concept of consilience, Mathias Clasen and Jens Kjeldgaard-Christiansen discuss the benefits and pitfalls of such an approach, illustrating their discussion with an analysis of the horror video game *Amnesia: The Dark Descent*. They argue that this video game is structured to target the human fear module that has developed through evolution, thus eliciting predictable psychological responses and attendant behaviors. On that background, they conclude that the consilient approach is promising for further studies.

In their article "Liberating methodological thinking in psychology from grand theories", Nikita Kharlamov and Einar Baldursson argue that while grand theories are tremendously popular in the social sciences and the humanities, they do not actually contribute to the critical debate and empirical research that might lead to breakthrough knowledge. Instead, Kharlamov and Baldursson rec-

ommend the modest but more productive approach of middle range theories. With reference to the sociologist Robert Merton, the authors propose three guiding principles for the development and application of middle range theories in psychology. Not only do middle range theories allow a truly falsifiable approach to research and knowledge, but they also contribute to an understanding of the humanities as capable of bridging the gap to neuroscience and other natural sciences.

In her contribution to this volume of *Academic Quarter*, Lone Dirckinck-Holmfeld shows how a piece of art can contribute to the development of new, engaging ways of seeing and discussing humanistic issues in the intersection between arts and meaning. On driving Benthe Norheim's "Camping Women" from one place to another, Dirckinck-Holmfeld and her co-drivers share this experience with us in her essay, urging us to rethink art as a boundary object to create bridges between communities and to "open up" humanities.

References

Collini, Stefan. 2012. *What Are Universities For?* London: Penguin.

Nussbaum, Martha. 2010. *Not for Profit*. Princeton: Princeton University Press.

Small, Helen. 2013. *The Value of the Humanities*. Oxford: Oxford University Press.

(Endnotes)

1 We have decided to use this term until it is formally abolished.

2 http://ufm.dk/en/education-and-institutions/councils-and-commissions/the-expert-committee-on-quality-in-higher-education-in-denmark, accessed February 2016.

A Failed Response?
The Humanities in Transition

Anders Ekström   *is Professor of History of Science and Ideas and Vice-Dean of the Faculty of Arts at Uppsala University, Sweden. He has published broadly on modern cultural and media history and theory for more than 25 years. In 2012, he published a book on the future of the humanities entitled Alltings mått: Humanistisk kunskap i framtidens samhälle (with S. Sörlin).*

Abstract
This essay discusses the changing role of arts and humanities research and education in the context of continuing transitions in knowledge politics and society at large. It argues that a conflicted history of both expansion and marginalization has conditioned the humanities for reactive critique in ways that limits its influence. This calls for a rearticulation of the role of humanistic knowledge in a time when society's most challenging transitions are connected by their cultural dimension, understood in its most basic sense of the influence on society of human action, communication, cultural routines and value formation. To scale-up the impact of the humanities, and sharpen its knowledge claims, a development towards integrative and plural forms of knowledge environments is suggested.

Keywords knowledge politics, history of humanities, reactive critique, integrative knowledge, institutional plurality

Expansion and marginalization
If we are to grasp the changing role of the arts and humanities in modern universities, it is vital to keep two conflicting stories in

mind. The first is a story of tremendous expansion. Around the turn of the 20th century – a period of great importance to the formation of the academic disciplines that make up the human sciences today – the community of scholars in any scientific area was in most countries no larger than could be gathered in a modestly sized seminar room. The social outlook of the university mirrored this intimacy. This meant, among other things, that academic privileges were literally handed down from father to son, and that the structures of legitimacy for humanistic research and erudition were strongly tied to traditional occupations and elitist institutions.

About a century later, the difference in scale is staggering to say the least. In a country like Sweden, with less than 10 cities with more than 100 000 inhabitants, there are currently more than 30 universities and university colleges. With the dramatic increase in the number of students, especially from the 1950s and 1960s onwards, the social composition of university life also changed. Parallel to the democratization of higher education, there has been a continuous growth in research activities, also in the arts and humanities. From a historian's point of view, there is in fact little reason for lamenting the poverty of the humanities, to the contrary, expansion has been steady and continues to the present day.

These changes in the overall knowledge environments for the humanities in the last century make any comparison difficult if not impossible. In orientation, scale and societal impact, the university of today has very little in common with early 20th century institutions for research and higher education. And yet, current debates on the role of the arts and humanities in universities and society at large continue to be shaped to a large extent by an uncontextualized use of 19th century terms and institutional models. Indeed, this is equally true for much Humboldtian framed debates about academic freedom and critique (Fish 2014) as it is for reactionary lamentations about the long-ago golden age of the humanities (Nordin 2008). In some cases, this reflects an anecdotal approach among academic teachers to their own trade, in others a deeply conflicted nostalgia for pre-democratic values and institutions.[1]

The second story is a story about the marginalization of the humanities in relation to other fields of knowledge. For as much as expansion has characterized the development of modern universities, so has differentiation between disciplines. There are many ways

to illustrate how the relative status of the humanities has diminished within European universities. For example, Stefan Collini (2012) points to the shift of orientation in British universities in the 20th century. In the interwar period, about 70-80 % of the students at Cambridge and Oxford took arts and humanities courses, but from mid-century and onwards they became a shrinking minority as other fields expanded at a quicker pace. Crucial was the emergence of new fields in technology and medicine, boosted by new priorities in knowledge policies in the 1950s and 60s. But it was yet another area that was to dominate the university sector in the late 20th and early 21st century as various kinds of business studies became by far the largest area of higher education in British universities.

In many other countries, a similar trend has prevailed. The principal task of 19th-century Swedish universities was the training of priests and civil servants. A century later a completely different knowledge ecology defines the sector with approximately 80 % of its overall resources devoted to science, technology and medicine, 15 % to the social sciences, and 5 % to the humanities. Although these figures are not mirrored in the proportions of the student population – humanities and social sciences programmes continue to host large number of students for a considerably lower cost than other areas – the historical trend is clear.

One of the major factors in turning these hierarchies around has been the academization of vocational education. This did not only change the overall dimension and relative balance between different areas of education and research in 20th-century universities; it affected the epistemic values and everyday culture of these knowledge institutions. In the early period of the modern university, it went without saying that the purpose of incorporating educational areas of a practical orientation into the university model was to make them more "academic", meaning that they should be influenced by what was considered to be more theoretical studies. Today, these influences go in both directions with impact regimes emerging from areas such as economy and technology drifting into other scientific areas.

So, there is in a sense a reverse relation between, on the one hand, the expansion of the arts and humanities in the last century and, on the other, their diminishing influence relative to other fields. This is no doubt a crucial dilemma for the humanities and its self-percep-

tions about its role in academia. But the long-term shifts in balance between knowledge bases should also be considered a dilemma for society at large. It is deeply connected with major processes of change in 20th century knowledge politics affecting many different aspects of society; for example the shift in status of the bourgeois professions, such as priests and schoolmasters (with journalists being a more recent example), that were traditionally connected with studies in the humanities.[2]

The influence of such deep-seated historical patterns is often overlooked in contemporary policy debates on educational matters. In Sweden, the most striking example is the heated debate in the last decades over the failure of the school system. What is missing in the analysis of its roots and causes is an understanding of the long-term rebalancing of the knowledge bases in society, and how this has affected the cultural and social legitimacy of educational institutions. If we are to engage with the fundamental question of how education builds society – taken in the sense that this question was first raised by 19th-century welfare reformers – it is therefore necessary to shift focus from the individual-instrumental emphasis of much current debate to an institutional-infrastructural understanding of knowledge politics.

The limits of reactive critique

How have researchers in the humanities reacted to the continuing rebalancing of society's knowledge bases? In academia there has been three main responses. The first is the *anecdotal* defence of the former glory of the arts and humanities, a position that comes uncomfortably close to pre-democratic nostalgia. The second has been to argue for the *instrumental* value of humanistic knowledge, for example by suggesting that business can not succeed without language skills, or by reframing social and cultural issues in terms of innovation and industry. The third response is to claim the margins as a *political* position, constructing an idealized self-image of the humanities as the last outpost for uncorrupted, free academic thinking. Despite the differences and outright struggles between these three positions, they are, I argue, similar in the sense that they are positions of *reactive critique*, driven by a sense of external pressure and a felt need to defend the legitimacy of humanities research and education.

Obviously, there are some very strong reasons for these worries. With the commercialization of education, an increasing influence of managerial thinking in universities, and the neo-liberal realization of what could once be dismissed as a Gogolian nightmare – a society run by accountants – there are some obvious threats to areas of education with supposedly weak outcomes in short term productivity. In some countries more than others this development has no doubt increased the relative marginalization of the humanities. It is important, however, not to confuse more general political trends in post-1989 Europe – an era that was increasingly characterized by a careless relation to public institutions – and more specific developments in knowledge politics and the history of universities.

But it is a problem that much thinking about the value of humanistic knowledge is stuck in reactive critique precisely at a time when the crisis of neo-liberal governance and short-term instrumentalism in knowledge politics is laid bare. What is needed today is not yet another declaration of the exclusivity of the humanities, or its self-imposed critical mission. More important is to explore the contribution of the humanities to emerging environments and knowledge practices that are involved in breaking some of the barriers of the modern knowledge system by approaching issues of contemporary concern from an integrated perspective, based on shared concepts and themes rather than disciplinary schools and divides. In a time when society's most severe challenges are connected by their cultural dimension – which in this context is taken in its most basic meaning of the impact on society of human action, communication, cultural routines and value formation – the human sciences need to both sharpen and broaden its knowledge claims. But this will not happen in the isolation of disciplines that were formed in the 19th century, shaped by 20th century academic individualism, and that continue to be haunted by the defensiveness of reactive critique.

To scale-up the impact of social and cultural perspectives on contemporary matters of concern, and develop new ideas that correspond to the complexity of global challenges, we need knowledge environments that are integrative and multidisciplinary, of a certain volume and driven by an ethos of collective work and responsibility. It is vital that these environments also engage in combining academic research of the highest standard with a commitment towards reinventing the role of universities in the shaping of

future publics. This means taking a more active part in providing explorative arenas for public debate, knowledge exchange and collaboration not only between academic disciplines but also between universities, cultural institutions, media, other educational institutions and non-governmental organizations.

It is true that European universities have become increasingly involved in community service and a plethora of outreach activities that goes way beyond their duties in education and research (Thrift 2015), although we also need to remark that the relation between universities, civil society and other public institutions are very different in countries like, say, the UK and Sweden – and perhaps increasingly so. But in this context, it is not an expanded *service to the community* as much as a different *sense of society* that I think these more integrative knowledge environments might help to develop. Especially in the arts and humanities there is a rich tradition to fall back upon in opening up the relation between the various contexts of academic knowledge production and its public resonances.

And yet, the power of humanistic knowledge claims has become weaker as academic differentiation has advanced. In a reward system that expects everyone to compete with everyone about everything on all levels, integrative environments need to overcome some of the structural resistance to cross-disciplinary work. In terms of funding and organization, they need to be stable enough to allow for adventurous thinking and scientific risk-taking, and yet more flexible than conventional academic departments. Many examples from around the world testify to an ongoing institutional change in this direction. How can this development be further encouraged and what are its obstacles? What can be expected from different actors in the knowledge system – from universities, funding agencies and policy – and what can be achieved between countries and already existing environments?

Again, I would like to point to the importance of some inherent differences between national knowledge systems. In Sweden, and especially from the perspective of the arts and humanities, one important obstacle to this development lies in the long-term consequences of institutional reform in Swedish universities in the 1950s and early 1960s. At this time, a decisive shift in the organization of the human, social and cultural sciences occurred as a result of a major university reform. For the first time, the social sciences and

the humanities were separated in different faculties. This process of differentiation was rooted in the knowledge politics of the 1950s and meant that the social sciences developed in close relation with the institutions of the emerging welfare state. This involved, among other things, the creation of research institutes with close ties to policy, government agencies and organizations outside the universities, which formed a new and parallel infrastructure for emerging research in the social sciences. It was, to summarize a complex process, the social and natural sciences that became associated with the vision of the role of knowledge in building the future society (Ekström and Sörlin 2012).

The humanities, on the other hand, gradually (if only partly) transformed from its previous role in traditional society as the relative balance and structures of legitimacy changed in the knowledge system. In Sweden, it was in this context of social and organizational reform in the 1950s and early 1960s – and not primarily as an outcome of the 1960s and 1970s radical movements – that the position of the arts and humanities researcher as a critical outsider was conditioned. It deeply affected the research styles and the ways to pose questions and make knowledge claims in the humanities. What would have happened, I find myself asking more and more often, if the separation between the human and social sciences had never occurred? Or, to be more specific, how would the culture of the human and cultural sciences have been different if they had been more widely mobilized in building social and public institutions in postwar society, and thus developed in closer relation to policy and in greater institutional diversity both inside and outside universities?[3]

The activism of the long-term

What are the visions for the role of knowledge in society today? The late 20th century notion of the "knowledge society" has become irreversibly obsolete. It was formulated in the context of the post-1989 utopianism of Western capitalism, and based on the idea of a world divided in nations competing for economic growth through knowledge investments, and implemented in policies aimed at diminishing the distance between the production of knowledge, on the one hand, and commercialized innovation on the other. One of its more curious manifestations was an abundance of sports metaphors projecting a "race" between scientists and nations for a lim-

ited number of benefits and leading positions. Indeed, this analogy between sports and science was recently invoked by a former Swedish minister of higher education and research who in commenting on a much-publicized case of scientific misconduct at the medical university Karolinska institutet in Stockholm was quoted saying: "You don't cancel the Olympics only because there are those that cheat." (www.dn.se 2016-02-18)

After the financial, social and political crises of the early 21st century – with European societies being trapped in a self-reinforcing spiral of economic and cultural polarization, and haunted by a growing awareness of the profound challenges of anthropogenic climate change, migration and global conflict – this is no longer a viable language for thinking about the transformative power of knowledge in contemporary societies. Thus, if the knowledge economy discourse still prevails in European research policies, it is yet unable to address the European future. Three aspects are especially important in building an alternative knowledge politics. First, impact definitions need to change from its previous focus on national competitiveness to issues of value creation; second, knowledge policies need to address the balancing of knowledge bases in society from a long-term infrastructural perspective, and focus on institutional reforms that make them interact in novel ways; and third, universities on their hand need to rediscover and explore their role as public institutions, not from the impoverished perspective of accountability, but in ways that reflect their profound importance to the shaping of public culture.

Taken together, this calls for an activism of the long-term. In my mind, this involves thinking about knowledge as infrastructure and universities as public institutions, but it also requires a change of tactics. The emerging vision for a new role of the humanities in the context of integrated research does not benefit from the typical hit and run strategy of humanistic critique. Neither will it evolve through organizational reform only. What is needed is generative not reactive critique, a stay-in-the-debate-attitude towards policy, and, not the least, a richer and more powerful articulation of the contribution of the human and cultural sciences in the move towards integrative knowledge production. Interestingly enough, the arts and humanities have been comparatively successful in documenting 'societal impact' in recent evaluations that use narrative

rather than metric tools. With broadening impact definitions, focusing on issues of long-term value creation and the formative role of universities as public institutions, thick descriptions are required to account for the complex ways in which knowledge builds society.

The ongoing rearticulation of the role of the humanities also depends on a consistent commitment to institutional change among groups of researchers that share the view that a certain postdisciplinary dynamic is a defining and productive force in important areas of research and critique.[4] Too often, calls for interdisciplinarity in universities has been an excuse for downsizing through mergers or organizational reform on administrative grounds. This has created a healthy suspicion among academic teachers of top-down initiatives in this area, and fuelled an already strong and unhealthy protectionism in relation to disciplinary territories. It is vital that academic leaders approach these issues not from the perspective of organizational efficiency but from a careful analysis of the way different knowledge environments work and how they might be developed in the future. This is not a time in which there is one solution for all problems. To the contrary, the very complexity of the ongoing transitions suggests a knowledge politics that mobilize a plurality of institutional forms and the interactions and synergies that emerge between them. New and emergent environments can be thought of as niches, institutional carriers, and integrative spaces of experimentation; the most important change is that universities of a certain scope and scale take a long-term commitment to institutional reform in order to train and enable students and researchers to move between different environments for knowledge production both inside and outside the university.

But I will not end this essay in internal university affairs. What has become more and more the focus of my thinking on these issues is the question of how we may redefine and broaden again the role of universities as public institutions. In a time when new generations in Europe and elsewhere are forced to confront the experience that public rights and values are not to be taken for granted, but that they are the provisional and contingent result of a long and complex history, embedded in institutions that are in constant need of defence and reconstruction, universities should be in the forefront of defining new and emergent publics. This suggests an openness towards various modes of interaction between academic

knowledge environments and other spaces for public thought and action; that is, less of separate spheres and more of integrative efforts – in science as in society at large.

References

Budtz Pedersen, David, Simo Køppe, and Fredrik Stjernfelt, eds. 2015. *Kampen om disciplinerna: Viden og videnskabelighed i humanistisk forskning*. Copenhagen: Hans Reitzels Forlag.

Brooks, Peter, ed. 2014. *The Humanities and Public Life*. New York: Fordham University Press.

Collini, Stefan. 2012. *What Are Universities For?* London: Penguin.

Ekström, Anders. 2009. "Den falska återkomsten: Om gammal och ny kulturhistoria." *Representation och materialitet: Introduktioner till kulturhistorien*. Nora: Nya Doxa: 15-47.

Ekström, Anders, and Sverker Sörlin. 2012. *Alltings mått: Humanistisk kunskap i framtidens samhälle*. Stockholm: Norstedts.

Fish, Stanley. 2014. *Versions of Academic Freedom: From Professionalism to Revolution*. Chicago: The University of Chicago Press.

Interview with Lars Leijonborg. 2016. "De skjuter på helt fel person!" February 18. www.dn.se.

Jordheim, Helge, and Tore Rem. Eds. 2014. *Hva skal vi med humaniora?* Oslo: Fritt ord.

Miller, Toby. 2012. *Blow Up the Humanities*. Philadelphia: Temple University Press.

Nordin, Svante. 2008. *Humaniora i Sverige: Framväxt – Guldålder – Kris.* Stockholm: Atlantis.

Osborne, Peter. 2015. "Problematizing Disciplinarity, Transdisciplinary Problematics." *Theory, Culture & Society*, 32(5-6):3-35.

Small, Helen. 2013. *The Value of the Humanities*. Oxford: Oxford University Press.

Thrift, Nigel. 2015. "The University of Life" (manuscript).

Notes

1 For a useful overview of the history of the debates of the legitimacy of the humanities, see Small (2013).

2 These historical developments in Swedish knowledge politics are more fully described in Ekström and Sörlin (2012).

3 This difference in the institutional history of the human and social sciences, with the latter developing in closer relation to research and poli-

cy institutes outside universities, is also addressed in a recent report on the current status of the humanities in Norway; see Jordheim and Rem (2014).

4 The long-standing relevance of trans-, multi- and postdisciplinarity for humanistic and cultural research and critique is discussed in a growing literature; see, for example, Ekström (2009), Miller (2012), Osborne (2015), Budtz Pedersen, Køppe and Stjernfelt (2015).

Practicing Humanities

Antje Gimmler

is a professor in Applied Philosophy at the Department of Learning and Philosophy and director of the Center for Applied Philosophy, both at Aalborg University. In her research within social and political philosophy, philosophy of health and technology as well as applied philosophy of science she focuses on the collaboration of philosophy with other disciplines and with practitioners.

Abstract

In contemporary societies, the humanities are under constant pressure and have to justify their existence. In the ongoing debates, Humboldt's ideals of 'Bildung' and 'pure science' are often used to justify the unique function of the humanities of ensuring free research and contributing to a vital and self-reflective democracy. Contemporary humanities have adopted a new orientation towards practices, and it is not clear how this fits with the ideals of 'Bildung' and 'pure science'. A possible theoretical framework for this orientation towards practices could be found in John Dewey's pragmatic philosophy. Contrary to Humboldt's idea that the non-practical is the most practical in the long run, philosophical pragmatism recommends to the humanities to situate knowledge in practices and apply knowledge to practices.

Keywords History of the humanities, Dewey, Humboldt, pragmatism, practices

Ideal and Crisis

Nowadays the humanities are not only under constant pressure to justify their existence; they are also under constant transformation. In terms of new technologies and methods, the humanities are demonstrating a stunning openness. (Pedersen, Køppe and Stjernfelt 2015). Digital humanities could be said to be the latest development of the adaptive and transformative nature of the humanities (Holm, Jarrick and Scott 2015). This heterogeneity was not always present in the humanities. Or at least, this is not what 'the humanities' and the 'liberal arts' have represented since they were installed by the Humboldt reforms in the beginning of the 19th century. 'Pure science' and 'Bildung' are seen as the cornerstones of the humanities and are still playing a decisive role in the discussion about the reorientation and reorganization of the humanities (Fish 2008; Small 2013).

It seems that the ideal of 'Bildung' has lost its magic power and attraction for university planners and politicians. In most countries, the goal of contemporary university education is rather to qualify students for a profession and the labor market than to ensure their general 'Bildung'. Universities have certainly changed tremendously over the past 20 years; Martha Nussbaum (2010) called this development a "silent crisis". 'Pure science', the other core ideal of the humanities, has been questioned as well. The so-called 'Mode 2', which was already diagnosed by Gibbons, Limoges and Nowotny in 1994 , is not limited to the natural and the social sciences; this new orientation towards application and social as well as economic impact also affects the humanities (Gibbons, Limoges and Nowotny 1994, 90 ff.).

One of the many transformations of the humanities that can be identified is a transformation towards practical orientation. This is seen, for instance, in the collaboration of the humanities with design. Humanistic research is beginning to play a valuable part in economic value production. Are the humanities able to profit from this new practice orientation, and what might their profit be? Some will argue that this is the only method of survival for the humanities, while others are warning that the humanities will lose their identity (Derewiewicz 2015; Fish 2008). Are the 'new' humanities still characterized by the traditional ideals of 'Bildung' and 'pure science'? This question cannot be answered by a simple yes or no.

In this article, I shall pursue the modest ambition of sketching a theoretical framework that might enable us to evaluate what practical orientation could contribute to the humanities. The theoretical framework is meant to contribute to the ongoing rearticulation and transformation of the humanities in a productive way. The premise of this article is therefore that practical orientation is part of the revitalization of the humanities. In the first part, I shall take a closer look at the Humboldt university reform and the ideals of 'Bildung' and 'pure science'. In the next part, I shall introduce what has been coined 'the practice term' and shall then use the pragmatism of John Dewey as a radicalized form of the practice turn in order to understand the practical engagement of the humanities as not merely market driven utilization but as a theoretical challenge and a contribution to the ongoing revitalization of the humanities.

'Bildung' and 'pure science' – uselessness as a necessary principle?

Are Humboldt's ideal of 'Bildung' and his understanding of the humanities still relevant as normative ideals for universities today? Of course, this depends upon what is meant by the Humboldt ideals of 'Bildung' and 'pure science'. Usually, four fundamental claims characterize Humboldt's idea of university teaching and research: the freedom of teaching and learning, the unity of research and teaching, the unity of science and scholarship, and the primacy of 'pure' science, i.e. the absence of utility or use as the motivation and goal of science (Ash 2006). A fifth claim that is connected to Humboldt's idealistic humanism could be added: it is the assumption that the humanities provide the means for individuals to be capable of self-realization in a reflective way. This claim can be found, for instance, in the defense of the humanities which has been expressed by Martha Nussbaum (2010), and which can be traced down to Humboldt's idea of education as the ultimate means of realizing humanity and human mankind as such. But as also Ash (2006) has outlined, the very idealistic connotation that Humboldt's ideal has achieved over time hides the more profane tensions and contradictions between the ideal and its reality.

First, it should be mentioned that Humboldt's educational reform of the university was a reaction to the decline of the university system in Germany in the 17th and 18th centuries (Nipperdey 1983, 57).

The Prussian reforms from 1807 – 1821 constitute the second historically relevant background. The reform of the entire educational system, including the universities, constituted a corner stone of the general reforms that the Prussian State initiated after the devastating results of the Napoleonic wars (Mieck 1981). The Prussian bureaucracy needed properly educated civil servants and functionaries, and the schools and higher education institutions needed teachers and professors trained in systematic knowledge acquisition. Third, the educational reform should also be seen against a broader political background: Germany had not been a political nation state, and the philosophical humanism of Humboldt and others replaced the political unification by cultural unification (Plessner 1959). The Prussian educational reform, pragmatically driven by the need for re-organization of the country, found its ideological underpinnings in the idea that higher education provides citizens with a national awareness that takes the form of language, culture and mentality. Humboldt calls this the realization of humanity in the individual ("Begriff der Menschheit in unsrer Person", Humboldt 1960, 235).

Today, when Humboldt is referred to when explaining the necessity of the humanities, what is attractive is precisely the idea of integration of individuality within the greater scheme of civil society and humankind, as well as the utilization of the creative potential that lies in studying languages and cultures of different historical epochs and cultural backgrounds (e.g. Nussbaum 2010). This includes the distance to the world of labor and to the market, which is a 'Leitmotiv' in Humboldt's thought. Contemporary criticism of the upcoming industrial society with its bourgeois values of efficiency and profit forms the context of this distance to vocation. Humboldt's thinking has sometimes been called aristocratic (Kost 2004, 147f.); this assessment contains an implicit critique of the ideal of 'Bildung'.

What does 'Bildung' actually mean for Humboldt? The instrument to realize 'Bildung' was the foundation of the Berlin University (1809/10) along the principles which have already been mentioned: the freedom of teaching and research, the unity of research and teaching, the unity of science and scholarship, and the dominance of 'pure science'. 'Bildung' in Humboldt's understanding is not a fixed goal but rather a lifelong process that the individual realizes as a reflective way of leading her life. It is the capacity to not merely

make well-informed judgments, which would only be the result of material education (factual knowledge). Rather the goal is to enable the individual to make judgments that reflect her uniqueness and autonomy. This is only achieved with formal education where principles and not merely information are taught (Humboldt 1960; Kjær-gaard / Kristensen 2003, 92f.). In his well-known idealistic manner, Humboldt believes that every human being possesses an active spirit that is seeking for truth. It is in art and language, in the symbolic universe, that the human spirit recognizes and reflects truth and itself (Humboldt 1960). Here Humboldt stands in the tradition of Platonic-Aristotelian metaphysics: pure theory reveals the reasonable order of reality, while instrumental practice (poiesis) is bound to pure chance and failure. This down-playing of practical activities had a tremendous influence on education, and we will see that this is one of the main features that had been criticized by pragmatism.

For Humboldt, it was clear that the danger of alienation to nature lurks behind an activity that is not centered in the individual itself (Humboldt 1960, 237). 'Poiesis' is, so to speak, potentially a dangerous activity that could allow the outer world to assume power over the individual. For Humboldt, the humanities guarantee for a totality of knowledge that is not scattered into bits and pieces but demonstrates inner coherence. And here the other corner stone of Humboldt's new type of university becomes important. 'Bildung' can only be realized as 'pure science'. It is an approach to science that is theoretical, not interested in practical purposes, economic profit or other forms of utility (Humboldt 1809/10). 'Pure science' is free research, not only in the humanities, but also in the natural sciences. From the orientation to 'Wissenschaft' or 'pure science' follows also that teaching cannot be isolated from research, which is intrinsically an open endeavor. The unity of research and teaching turns both professors and students into researchers (Humboldt 1960). This is an ideal that has been most influential and still is, also for modern universities (Ash 2006).

For Humboldt, 'Bildung' as the educational ideal that is non-vocational and defined by distance to utilization guarantees that the student will be able to realize individuality and humanity. This was the revolutionary thought of Humboldt: only by being disinterested in what purpose one's education could serve will the student learn to gain the autonomy to fulfill different purposes in the long run. This

also applies to 'pure science'. The absence of direct interests of an economic or societal nature opens for the researcher's autonomy and truth seeking. The absence of purpose and utility in Humboldt's ideal also excludes the interests and needs of societies. In Humboldt's understanding, societies are best served by humanities not being directly oriented towards societal problems (Humboldt 1809/1810). As also outlined by Habermas (1968), this idealistic self-understanding of the humanities is flawed. The idea of 'pure science' maintains the strong belief that pure theory is able to represent the world as totality. Therefore, for Humboldt, 'Bildung' is most practical precisely because it is non-practical. Habermas criticizes this understanding of theory by demonstrating the hidden interests behind the allegedly neutral theory. According Habermas' analysis, science and humanities are always already bound to interests. He recommends a critical and emancipatory interest that guides the process of knowledge acquisition. In his approach, the emancipatory interest complements the technical interest of the natural sciences and the self-understanding of the hermeneutics in humanities.

But what if humanities themselves become practically oriented? Do they have to part with the critical spirit and the ideals of humanity?

Pragmatism and Practice Turn – approaches to practices

As already mentioned, parts of contemporary humanities do embrace new technologies and look for a more practical orientation. And it should be pointed out that this is not a development that is first and foremost the result of political pressure to ensure that humanistic graduates are able to find jobs. Humanities that are seeking new grounds and are transgressing their boundaries could be seen to be part of the contemporary "ongoing rearticulation of the role of the humanities" (Ekström, in this volume) which is already taking place.

Yet, it is not always clear what type of theoretical orientation could support the practice orientation of the humanities. Obviously, the humanities have always dealt with practices, but mostly with narrating and interpreting practices. Seeing interpretation itself as a practice and recognizing that there is more to practices than text represents an orientation switch that is in the center of a recent broad theoretical movement called the 'practice turn' (Schatzki

et al. 2001). 'Practice turn' is an umbrella term that covers quite different approaches, such as Bourdieu's sociology or Latour's actor-network-theory. Their common ground is that practices shift from being narrated and interpreted as explanandum to being part of the explanans itself. Andreas Reckwitz (2002) has proposed the systematization of the practice turn or, as he prefers to phrase it, 'practice theory'. Practice theory "revises the hyperrational and intellectualized picture of human agency and the social offered by classical and high-modern social theories. Practice theory 'decentres' mind, texts and conversation. Simultaneously, it shifts bodily movements, things, practical knowledge and routine to the centre of its vocabulary." (Reckwitz 2002, 259). The 'practice turn' includes the broadening of the humanities in terms of methodology, theoretical approach, and subject matter. An even more radicalized practical approach has been developed by the classical pragmatist John Dewey (Gimmler 2012).

From Dewey's perspective, the use of new technologies and tools does not necessarily change the self-understanding of the humanities. A real change would demand that the humanities not only develop knowledge in practical contexts but also apply knowledge in these. The result of this operation would be a learning process:

> "To 'learn from experience' is to make a backward and forward connection between what we do to things and what we enjoy or suffer from things in consequence. Under such conditions, doing becomes a trying; an experiment with the world to find out what it is like; the undergoing becomes instruction--discovery of the connection of things." (Dewey 2008c, ch. 11)

In contrast to Humboldt, Dewey sees learning and research not as a development towards a pre-given goal, a "ready-made latent principle" (Dewey 2008c, ch. 4, 2). For Dewey, learning is an open and experimental process that unfolds between the individual and the environment. The core principle of this process is experience, and experience is always situated within practices. Experience unfolds as an activity between an organism and its environment, it is not merely a form of perception or an epistemological stance to-

wards the objective world. Three dimensions of experience can be distinguished in Dewey's philosophy:

The first dimension is the experience of something in a situation; this is what Dewey calls primary or immediate experience: "Experience is double-threaded in the sense that in its primary wholeness, it does not differentiate between act and material, subject and object. It includes both in its unanalysed totality." (Dewey 2008a, 18). Experience demonstrates qualities that are experienced as specific, for instance with the body and the senses. Experiences are thus situated. A situation, for Dewey, is characterized by being a disruption of the usual way of acting. Primary or immediate experience takes a heuristic function and sets the stage for further experiences. Applied to humanistic research, it follows that the sensitivity to identify disruptions has to be refined, and the definition of relevant problems should employ a broad range of methodologies.

The next dimension of experience is best described as 'to be experienced in something'. Experience in this sense is sedimented in recipes, in tools and in the body (Dewey 2008a, 21 ff.). Experience is often tacit knowledge. An artist 'knows' how to treat the material and the tool she is using. Experience of this practical and physical but not exclusively linguistic kind is present in three contexts: first, in tools, second, in the artefact or product, and third, in the activity. This dimension of experience would allow the artist to incorporate practices of different kinds and to go beyond the purely contemplative stance towards products of culture or symbolic systems.

The third dimension of Dewey's understanding of experience has Hegelian traits (Gimmler 2004). Interacting with the world, we also make experiences with ourselves, reflecting our ideas and investing hypotheses or theories. Within the framework of research as a process, Dewey outlines this third dimension of experience as the controlled production of knowledge, for example through experiment, statistical investigation and other methods (Dewey 2008a, 105ff.). For Dewey it is decisive that with reflected experience, human beings control actions and at the same time gain knowledge about themselves. Taking this experimental approach, self-reflection in the humanities would be contested in a productive way.

Taking Dewey's theory of experience into account, traditional philosophy could be said to have cultivated irrelevance as a distinguished virtue. What is lacking in traditional philosophy for Dewey

is, oddly enough, learning. In his view, philosophy should become empirical. Bringing the results of a process of experience back into experience and making them useful for practices would strengthen the validity of philosophical ideas. A look at the natural sciences could help to understand this point. From Dewey's point of view, the natural sciences are not successful because they achieve true representations of the natural world; as a matter of fact, Dewey was very critical about the positivist understanding of the natural sciences. The success of the natural sciences lies in their experimental use of experience in order "to have a new empirical situation in which objects are differently related to each other, and such that the consequences of directed operations have the property of being known" (Dewey 2008b, 70). However, the blind application of the scientific method as such is not Dewey's goal. The experimental orientation to philosophy recommended by Dewey could also be applied, mutatis mutandis, to the humanities. Reflected integration of humanistic research and education into the practices that regulate, stimulate and develop societies in a more direct and active way could be one of the results of Dewey's theory of experience. Firstly, a pragmatic version of the humanities would put cultural symbols back into practices. Secondly, pragmatists would acknowledge the collaborative and collective nature of these practices. And thirdly, pragmatists would suggest that also the humanities should use their theories and interpretations to improve democratic practices; this is the melioristic aim of pragmatism. It is clear from this short presentation of Dewey's pragmatism that the humanities should not confine themselves to purely theoretical constructions. The Humboldt paradox of impractical theory being the most practical is not supported by Dewey.

Concluding remarks

If philosophy and the humanities were to put their theories to test, what would philosophy and the humanities gain? First of all, it should be stated that the main arena for humanistic theories, concepts, ideas, and narration is the scientific community and the public debate. This is completely legitimate from Dewey´s point of view. However, a more rigorous reading of Dewey's theory would emphasize the practical grounding of the humanities. Let me concentrate on two major changes which, according to the pragmatic

theory of experience, are connected with the new orientation in humanities towards practices: First, the introduction of experience-based humanities would situate the humanities in a broader spectrum of interactions with the world. The definition of a relevant research problem is only possible on the basis of a full range of experience. If the latter is not available, the problem definition is always in danger of repeating text book problems and being detached from real world problems. Recent approaches within the 'practice turn' reflect this and focus much more on materialities of experience, without leaving the symbolic dimension of meaning aside (Rinkinen, Jalal and Shove 2015). Secondly, not only the basis of humanistic research in the richness of experience is advocated by Dewey; it is also recommended to bring the results back to real life practices in order to validate humanistic theories and ideas. The latter seems to be problematic: 'Testing' a hypothesis in historical science is not possible in the same way as a hypothesis is tested in chemistry. But actually this is what happens in design-oriented humanities: The semantic classifications that are used to establish a structured data collection are tested in computer software. Digital or design humanities might be one type of humanities among others that is experimenting with new methods, thus changing the outlook on the humanities. The plurality of approaches and an academic community flourishing with heterogeneity rather than with homogeneity could be one result of this development.

The aim of this article was to contribute to an understanding of the changes humanities are currently undergoing. The practice turn that decenters our focus from texts and symbols to the richness of all sorts of experiences is one step in this direction. Dewey's theory of experience enables us to conceptualize this change as a radical one. The Humboldt paradox that 'Bildung' and 'pure science' should not address practical goals directly and is precisely therefore able to be practical in a deeper sense, is highly questionable from the pragmatic point of view. Dewey's philosophy could provide a framework for conceptualizing the humanities beyond the simple alternatives of 'pure science' and 'applied science'; juxtaposing these alternatives always insinuates that 'pure science' is based on truth seeking, while 'applied science' is contaminated by the nasty odor of being subordinated to economic constraints. Dewey's concept of philosophy applied to the humanities aims at

including intellectual achievements into everyday life experience. With this ideal, he would want the humanities to collaborate with other fields of science, including the natural sciences and engineering. This would enable certain parts of the humanities to enter into a radical relationship of practice and would finally depart from the contemplative understanding of knowledge. Theoretical concepts and ideas will then be subjugated to strict operationalization that takes seriously the pragmatic motto that a concept is understood only when one sees the consequences of its work.

References

Ash, Mitchell G. 2006. "Bachelor of What, Master of Whom? The Humboldt Myth and Historical Transformations of Higher Education in German-Speaking Europe and the US", *European Journal of Education*, Vol 41: 2.

Deresiewicz, William. 2015. "How College Sold Its Soul and Surrendered to the Market", *Harper's Magazine*, September, 25-32.

Dewey, John. 2008a. *Experience and Nature, Later Works*, Vol. 1, Carbondale: Southern Illinois University Press.

Dewey, John. 2008b. *The Quest for Certainty, Later Works*, Vol. 4, Carbondale: Southern Illinois University Press.

Dewey, John. 2008c. *Democracy and Education* (1916), e-book, http://www.gutenberg.org/files/852/852.txt

Fish, Stanley. 2008. "Will the Humanities Save Us?" *The New York Times*, January 6. http://opinionator.blogs.nytimes.com/2008/01/06/will-the-humanities-save-us/?_r=0

Gibbons, Michael, Limoges, Camille, and Helga Nowotny. 1994. *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*, London: Sage Publishers.

Gimmler, Antje. 2004. "Hegel as Pragmatist". In *The Pragmatic Turn in Philosophy* edited by Bill Egginton, et al. Albany N.Y., SUNY, 47-66.

Gimmler, Antje. 2012. "Pragmatisme og 'practice turn'", *Slagmark – Tidskrift for idéhistorie*, Vol. 64, 43-60.

Habermas, Jürgen. 1968. *Erkenntnis und Interesse*, Frankfurt a. M.: Suhrkamp

Holm, Poul, Jarrik, Arne and Dominik Scott. 2015. *Humanities World Report*, Basingstoke: Palgrave Macmillan.

Humboldt, Wilhelm von. 1809/10. *Über die innere und äussere Organisation der höheren wissenschaftlichen Anstalten in Berlin*: http://edoc.hu-berlin.de/docviews/abstract.php?lang=ger&id=30376

Humboldt, Wilhelm von. 1960. *Theorie der Bildung des Menschen. Werke in fünf Bänden*, Bd. I, Darmstadt: Wissenschaftliche Buchgesellschaft, 234-240.

Kjærgaard, Peter C. og Jens Erik Kristensen. 2003. „Universitets idéhistorie". In *Universitet og videnskab* edited by Hans Fink Kjærgaard, Peter C. Kjærgaard, Helge Kragh og Erik Kristensen. København: Hans Reitzels Forlag, 31-144.

Kost, Jürgen. 2004. *Wilhelm von Humboldt: Weimarer Klassik. Bürgerliches Bewußtsein*, Würzburg: Königshausen & Neumann.

Mieck, Ilja. 1981. „Zielsetzung und Ertrag der preussischen Reformen", In *Preussen. Beiträge zu einer politischen Kultur*, edited by Manfred Schlenke, Hamburg: Rowohlt, 181-196.

Nipperdey, Thomas. 1983. *Deutsche Geschichte 1800-1866. Bürgerwelt und starker Staat*, München: C.H.Beck.

Nussbaum, Martha. 2010. *Not for profit. Why democracy needs the Humanties*, Princeton: Princeton University Press.

Pedersen, David Budtz, Køppe, Simon, and Frederik Stjernfelt ed. 2015. *Kampen om Disciplinerne. Viden og Videnskabelighed i Humanistisk Forskning*, København: Hans Reitzels Forlag.

Plessner, Helmuth. 1959. *Die verspätete Nation. Über die politische Verführbarkeit bürgerlichen Geistes*. Stuttgart: Kohlhammer.

Reckwitz, Andreas. 2002. "Toward a Theory of Social Practices", *European Journal of Social Theory*, Vol. 2: 243-263.

Rinkinen, Jenny, Jalal, Mikko and Elizabeth Shove. 2015. "Object Relations in Accounts of Everyday Life", *Sociology*, Vol. 49,5: 870-885.

Schatzki, Theodore et al. 2001. *The Practice Turn in Contemporary Theory*, Florence, KY, USA: Routledge.

Small, Helen. 2013. *The Value of the Humanities*, Oxford: Oxford University Press.

Validating Arts Research
Reflections on the UK research audit culture and arts 'doing-knowing'

Robin Nelson

Director of Research and Professor of Theatre and Intermedial Performance at University of London (RCSSD) until retirement (Dec 2014), Nelson is also an Emeritus Professor of Theatre and TV Drama at Manchester Metropolitan University where he worked for many years. Twice an RAE/REF sub-panel member, he has himself published widely on the performing arts and media. Recent books include Practice as Research in the Arts: Principles, Protocols, Pedagogies, Resistances (2013), Stephen Poliakoff on Stage and Screen (2011), and Mapping Intermediality in Performance (co-edited with Bay-Cheng et al.) (2010).

Abstract
This article reflects on the worth of the arts in an academic context partly in the light of the author's experience of formal UK research audit as a sub-panel member (RAE 2008; REF 2014). First the article outlines the emergence and development of UK audit culture, bringing out its upsides and downsides as perceived from different points of view. It proceeds to consider the formal acceptance of practice-based arts inquiries as knowledge-producing within the academy by relating the protocols of UK research audit for handling Practice as Research. Intelligent, investigative arts and media practice may well constitute research but the articulation, evidencing and dissemination of research inquiries and insights pose several challenges. Thirdly, it briefly explores a case for the value of Practice as Research as knowledge-producing in the broader context of interdisciplinary approaches to research within the Arts & Humanities and beyond. It challenges the historic divide between the Arts and Sciences.

Keywords research audit; PaR; doing-knowing; arts; science;

Introduction

This article has three related concerns: the worth of the arts, research audit culture in the UK and the place of Practice as Research (hereafter, PaR) within that culture. Since Part One deals with UK audit culture in general and Parts Two and Three with PaR, it might be helpful for those unfamiliar with the concept to outline what is meant by research submissions through practice. PaR is research undertaken through a practice, the product (and/or documented process) of which is submitted as primary evidence of research in research assessment contexts. Musicians, for example, might submit compositions on CD; dancers or theatre-makers might submit performances on DVD; and visual artists might submit artefacts of all kinds (often digitally photographed for practical purposes of submission). REF fully accepts PaR (see below) and affords the opportunity also to submit a 300-word statement and a portfolio of writings/documentation to help "panel members to access fully the research dimensions of the work" (*Panel criteria and working methods*, Research Excellence Framework 2014, subpanel 35, para 71c).

Part One: research audit in the UK

A research audit culture is not generally welcome. That is to say, most academics - let alone most artists - would prefer it if their efforts were not subject to continuous instrumental scrutiny. Indeed, some would argue that such audit is an infringement of academic freedom and militates against curiosity-driven, 'blue skies' research. Over thirty years, the UK has operated a research assessment exercise (c. every five/seven years) of all academic disciplines in Higher Education. The first exercise took place in 1986 and arose in the context of Margaret Thatcher's initiation of a culture of managerialism, corporatisation and target-setting across the public sector. Indeed, the purpose of the exercise was to determine the allocation of QR (Quality-Related) funding to UK Universities at a time of tight budgetary restrictions.[1]

   A subsequent, expanded 'research selectivity exercise' was conducted in 1989 by the Universities Funding Council and allowed for a broader spectrum of subjects and for two outputs per individual researcher to be considered. Thus the broad parameters of assessment of published research outputs (typically journal articles, books and book chapters) and a statement on the research environment by

subject submitted were established. However, criticism remained that too much emphasis was placed, not on research itself, but on contextual factors such as research income and staff and postgraduate student numbers. In 1992 when the distinction between Universities and Polytechnics was abolished, a supposedly more robust and rigorous Research Assessment Exercise was instituted under the auspices of new funding councils (HEFC). Sceptics at the time sensed that the terms were set to distinguish an elite group which would receive a larger share of the limited funding pot from the rest who would receive little, if anything - but it did not quite turn out that way. Pressure increased for greater sector consultation and transparency. Indeed, though a post-1992 legal challenge by the Institute of Dental Surgery demanding reasons for its downgrade was not successful, the judge warned that the system may well need to become more transparent.[2]

In subsequent exercises (RAE 1996, 2001, 2008) the assessment criteria for evaluation and the working methods of panels were made much more explicit and published in handbooks, with each subject sub-panel being afforded the opportunity to determine precise protocols within the general framework and guidance. RAE 2008 brought in a major change: instead of a single grade for an entire subject area (or UOA, Unit of Assessment), a grade was assigned to each research Outcome. Grading of each individual Outcome was introduced to counter the criticism that, under a more general approach, large departments were able to hide a long tail of lesser work and still get high ratings whilst, conversely, excellent staff in low-graded departments were unable to receive adequate funding.

Institutions of HE were invited to submit to as many UOAs as they wished but each individual submitted needed four Outcomes.[3] Structurally the exercise grouped sub-panels in cognate disciplines under the oversight of a main panel in an attempt to ensure commonality of approach and standards of evaluation. The single, summary grades for UoAs were replaced by 'quality profiles' which did not publish Outcome grades for individuals but computed the proportion of each department's research Outcomes as individually assessed against each of four quality categories.[4] The quality profile for Outcomes was then computed against parallel profiles for Environment and Esteem based on written submissions to yield the overall subject profile for each HEI UOA submitted to the sub-

panel. Though established and wealthier institutions continue to achieve under the more inclusive yet rigorous protocols, newer universities, which perhaps have pockets of strong research, can be recognised in respect of standing and funding.

The structure of the re-branded Research Excellence Framework (REF) 2008-2014 remains similar to RAE, grouping cognate subjects into sub-panels under the auspices of main panels. But fewer main and sub-panels, and a slightly more top-down approach to panel chair and member training, aimed to tighten adhesion to published criteria and working methods and to secure even greater commonality of judgement standards across the piece. In respect of the Arts & Humanities in REF 2014, Main Panel D oversaw ten sub-panels covering a wide range of disciplines or UOAs. The requirement over the audit period for each researcher to qualify for submission remains four Outcomes (published works) but Double-weighted Outcomes ('of extended scale and scope') are allowed. Overall, Outcomes counted for 65% of the profile; Environment 15% and Impact 20%.

The truly new dimension in REF 2014, replacing Esteem, is Impact. The new category picks up on a theme implicit in research assessment since its inauguration - public accountability. It is not unreasonable, perhaps, for a government which invests considerable sums in Higher Education to expect the sector to be accountable - and to be able to demonstrate 'value for money' to the public. Though some see such accountability as government interference in HE, without such evidence continued public funding, significantly reduced as it already is, might be further questioned. Critics in the UK over the thirty years, however, have noted a Treasury bias not only towards so-called STEM subjects (science, technology, engineering and medicine) but to 'applied' research with its visible public benefits in that applied research solves immediate problems. This disposition has led to a high premium being placed on Impact, and the government has already indicated a likely additional weighting in future audit (perhaps to 40%). UCU, the main university lecturers' union which has always opposed research audit (see below), argued that Impact assessment would undermine support for basic research across all disciplines, disproportionately disadvantage research in the Arts & Humanities, and narrow the research agenda by extending commercialism. The scheme was not tried and tested and

attempts in other countries to measure Impact had failed.[5] At worst it might forge a rift between arts and humanities professors and their science, technology, engineering and medicine counterparts. Viewed more positively, however, Impact assessment may afford opportunities in the Arts & Humanities where many social benefits accrue (see below).

It is no easy matter to make an overall judgement about the UK research assessment process. Over time, there has undoubtedly been more sector consultation, adjustments in response to criticisms, more rigour and greater transparency. Nevertheless, it has been alleged that, rather than crediting and rewarding quality research, UK research assessment has institutionalised the corporatisation and marketisation of learning and knowing. According to UCU, research audit has had:

> a disastrous impact on the UK higher education system, leading to the closure of departments with strong research profiles and healthy student recruitment. It has been responsible for job losses, discriminatory practices, widespread demoralisation of staff, the narrowing of research opportunities through the over-concentration of funding and the undermining of the relationship between teaching and research (UCU Archive: RAE 2008, http://www.ucu.org.uk/rae2008, accessed, 18/01/16).

UCU sees the introduction of the Impact dimension as, "direct interference by government in the content, nature and direction of the research carried out in our universities" (http://www.ucu.org.uk/media/3648/UCU-policy-briefing-Research-Excellence-Framework-REF-Dec-09/pdf/ucupolicybrief_ref_dec09.pdf, accessed 18/01/2016). Over the past thirty years, government-driven managerialism and accountability has become pervasive worldwide in a neo-con drift, and nations have borrowed models from one another. Corporatisation is pervasive across Higher Education in the UK but many of the negative impacts of research audit, arise from the way university research managers (mis-) read the published criteria. Where Practice as Research is concerned, managers ignore the explicit RAE/REF statements that non-written submissions are welcome (see below).[6] Aiming to optimise profiles, universities play

games. They select for submission only those staff who, in their (not sub-panel) judgements will achieve highly, despite the exhortation in RAE/REF manuals to submit all staff who qualify (that is have four Outcomes likely to achieve at least 1*).[7]

On the plus side from the government's perspective, research audit has had positive effects: it has stimulated universities into managing their research and has ensured that funds are targeted at areas of research excellence. The findings serve as an evidence base for claims that UK HE research remains 'world-leading'. Funding is still distributed in relation to REF achievement but, though Arts & Humanities profiles are strong, the amounts yielded to them are relatively small such that some universities are now more concerned about position in the league tables and sustaining reputation than income itself. In the UK, only 3% of total research council expenditure on research and postgraduate funding is allocated to the Arts & Humanities, despite these disciplines representing 31.5% of all UK research-active academics.[8]

Whatever the overall judgement of its benefits and downsides, UK research audit, involving panels of expert peer reviewers, is at once onerous and expensive. At the very least it has caused considerable increased workloads and anxiety for institutions and a large number of individuals over three decades. So, is it worth it?

Part Two: 'taking the positives' – opportunities to validate the arts, including practice-based submissions

For reasons both of space and expertise, address of this question must be limited to the arts and media. UOA 35 (on which the author served in REF 2014) covered Music, Drama, Dance and Performing Arts (including a significant number of film and television submissions). Whilst the downsides of research audit above are recognised, a relatively positive case is proposed in what follows. The example of Practice as Research (PaR) is offered to illustrate how a quite radical approach to 'academic' research and to the process of knowing has gained credibility through persistent arguments for its inclusion. To speak truth to power, as the phrase goes, it is necessary to engage with institutions in power. Whilst some of the motives for mobilising audit are highly questionable, it is defeatist to assume that things cannot be challenged and changed. Further it is a misunderstanding of the operation of

the hegemonic functions of ideology to assume that negotiations with dominant forces are necessarily unproductive.

As the call for articles for this edition notes, the methods of Art & Humanities continue to be eyed with suspicion in some quarters of the academy. Where funding resource is at stake, sniping from established ground will inevitably take aim at newly-forming territories. Since its height in the late Nineteenth Century, 'the scientific method' has occupied the high ground in the academy and, as Bourdieu has remarked, "the solidarity that binds scientists to their science (and to the social privilege which makes it possible and which it justifies or procures) predisposes them to profess the superiority of their knowledge" (1990: 28). However, the tide is turning, as we shall see, against the historical science/arts binary and towards inter-disciplinary co-operations. Nevertheless, some attention will be paid below to the predicament of arts practice in respect of research and knowledge-production.

The first positive thing to note about formal research audit is that it affords the opportunity for the less established subject domains to be judged alongside - and against the same criteria within a common framework - as the more established. In the UK, arts research has been strengthened overall by submitting itself to scrutiny and showing up well in relation to other subject domains. The core requirement to demonstrate 'originality, rigour, and significance' and to adduce evidence for research inquiries in parallel with all other subjects locates arts research squarely within academic protocols.

In the process new methodologies such as PaR have achieved validation. Indeed, in UK research audits, non word-based submissions are now formally invited:

> [i]n addition to printed academic work, research outputs may include, but are not limited to: new materials, devices, images, artefacts, products and buildings; confidential or technical reports; intellectual property, whether in patents or other forms; performances, exhibits or events; work published in non-print media (*Assessment framework and guidance on submissions,* July 2011. REF 2014, para 106).

This protocol leads directly to the second positive aspect: the opportunity afforded for non word-based submissions by arts practi-

tioner-researchers. The many staff in HEIs whose primary mode of pedagogy and research is through a practice (other than writing) are not required fundamentally to shift to word-based modes and write articles and books but can continue with inquiries through a range of arts, media (and other) practices. However, formal submission of PaR to research audits requires adjustments (see below).

The third positive point to emphasise about UK research audit to date, is the centrality of "discipline-based expert review" (*Assessment framework and guidance on submissions,* July 2011. REF 2014, para 15) in the process. The pressure placed by government to shift away from expert peer review towards citation metrics in drawing up the protocols for REF 2014 was roundly resisted by most disciplines in the consultation process. Metrics ultimately played only a minor, and optional, part in some UOA's. Though the process of peer review is resource-consuming - particularly in the arts and media given the variety of practices under review - the principle of expert peer review remains crucial in recognition that audit is a matter of judgement against transparent criteria and cannot be instrumentally achieved.[9]

The challenges of PaR submissions

The sub-panel chair reports for both RAE 2008 and REF 2014 note that there is room for improvement in PaR submissions.[10] This has on occasion been misinterpreted as indicating that PaR is denigrated and not given a weight equal to more traditional publications. But evidence from service on two sub-panels (RAE 2008 and REF 2014) affirms that assessors are fully open to accrediting PaR where the submission puts them in a position to make a sound judgment. But rather too frequently, opportunities are not fully taken to articulate and evidence the research inquiry in the 300-word statement and accompanying portfolio as invited. The practice - submitted in recorded form, typically on DVD - is frequently left to speak for itself when a few well-chosen words might have given the clue required to the inquiry inherent in it.

There are, of course, a number of challenges to practitioner-researchers.[11] First, live performances are not readily disseminable other than in a recorded form which to some undermines the very ephemerality of the praxis. Peer reviewers are, however, attuned to this issue and able to interpret the context and make appropriate

allowances, precisely because, as members of the subject community, they are sensitive to its various modes. The situation may not be ideal but not to accept it would effectively entail the exclusion of (non object-based) PaR. The second challenge is documentation which, astutely edited, can strongly evidence the inquiry embedded in a praxis. Though documentation may be seen as an additional burden by some practitioners, the requirement is neither for a professional-quality record nor a written article but for "complementary evidence" (of all kinds) which might assist "panel members to access fully the research dimension of the work" (*Assessment framework and guidance on submissions,* July 2011. REF 2014, para 71c). The documentation required is not significantly different from that which many artists undertake for a variety of professional reasons. Rather than presented as a showreel, however, it needs, to be edited and presented to evidence a research inquiry.

Last but not least, is the challenge of articulating the research inquiry in a 300-word statement. As a recent conference call notes, the relationship between writing and arts practices is often, "felt to be one of friction, opposition or paradox. Writing gives an explicit verbal account of the implicit knowledge and understanding embodied in artistic practices and products while at the same time art may escape or go beyond what can be expressed by words and resist (academic) conventions of accountability" (cfp International conference of Society for Artistic Research, 2016). Notwithstanding these concerns, a written element is almost always a requirement of research in the context of 'the academy'. However, particularly to those who may not have been schooled in the modes of traditional humanities and whose primary mode of expression is not words, it is no easy matter succinctly to articulate an inquiry. But assistance with this important aspect might be obtained from research mentors, and the conversation (which should be on-going throughout the research process) is likely to be mutually illuminating and develop skills in writing which, of course, is itself a practice (or set of practices).

The Arts and the 'Impact Agenda'

Arts practices have a strong public dimension and serious consideration is now given to them under the 'Impact Agenda' - the impact of 'academic' research on broader society - new in REF 2014. Institutions are invited to give a generic account of how their re-

search in the given UOA submission impacts on society at large, and to present a number of Case Studies, typically two or three (relative to the number of staff submitted) to illustrate and substantiate the claims made. To qualify in REF 2014, Case Studies must demonstrably be based on research of at least 2* quality, and ideally show how they had contributed to social change.

Though, according to official report, most subject domains were able to demonstrate strong Impact, the arts perhaps have a particular advantage in this context since, typically, arts practices are publicly manifest (in exhibition, installation, media platforms, performance, public art and so on).[12] Moreover, research in other domains has demonstrated the generic impact of the arts and some specific benefits - for example to health, or to empowering disadvantaged communities. Once the research base had been established for Case Studies, the Impact criteria of 'reach and significance' required a documentary case to adduce evidence of the impact claimed. The arts are well-placed in respect of (reasonably) readily available audience/attendance/viewing figures; sales accounts; audience appreciation indices and so on.

Above all, the Impact dimension affords a space in which two values of importance might be celebrated. First, the worth of the arts to society both in the broad terms of a public good and in specific applications ranging from aesthetic pleasure to policy change on significant social issues. Secondly, the required basis in research affords an opportunity to demonstrate the value in acknowledging - and further strengthening - the bridges between 'the academy' and 'the professions'. Links already exist. Many contemporary artists - perhaps the majority in the UK - have benefited from a formal education, typically to first degree level and many to Masters level and beyond. In this sense, they are already 'academics'. Likewise, many staff members in arts HE institutions are also practicing professionals. Educational programmes are invigorated by staff research within academies and by professional feedback. In arts and media academies - particularly perhaps in practice-based institutions - bridges already exist with traffic flowing in both directions.

Though the motives for its initiation may lie elsewhere, the Impact Agenda ultimately affords the opportunity to demonstrate the inappropriateness of the yet sustained discursive distinction between 'theory' and 'practice' when, in actuality, praxis (theory

imbricated within practice) operates both within academies and in the professions.

Part Three: doing-knowing and interdisciplinary approaches

Doing-knowing through PaR

Practice as Research is research undertaken primarily through a practical inquiry; indeed, in establishing whether to proceed with a PaR project, the first question should always be whether the inquiry might more readily be undertaken by more traditional means.[13] Such probing reveals that, in some instances, PaR is the most appropriate methodology to address key issues.

Knowing (as distinct from knowledge) in the contemporary world is emphasized because the early C21 has moved a distance from the height of Positivism in the late C19 when Auguste Comte claimed that the world which science describes is the world, and its method is the method of knowledge itself.[14] In the century since Einstein's and Heisenberg's recognition of relativities and uncertainties in respect of subject-object relations, the sciences have become increasingly more circumspect about absolute knowledge of a stable object world. Indeed, various parallel universes, 'alternative universes', 'quantum universes', and 'interpenetrating dimensions' have today been posited by serious scientists. Moreover, aesthetics has become an important element of quantum physics in adjudging whether the patterns in complex data (such as that emerging from CERN) look interesting enough to warrant further inquiry.[15]

If, then, the case made by researchers across a range of disciplines is accepted, namely, in Noë's terms, that "perception and perceptual consciousness are types of thoughtful, knowledgeable activity" (2004, 03) and, further, "that … perception depends on the possession and exercise of a certain kind of practical knowledge" (2004, 33), then we come to recognise that 'doing-knowing' has a valuable contribution to make. Insider insights drawn from the experience of doing (engagement in a practical inquiry) may not quite meet Comtean standards of testability against the facts of experience as systematically and objectively observed. But, brought out through critical reflection and inter-subjectively correlated, they make modes of 'know-how' manifest and disseminable as research requires.[16] The concepts of 'doing-thinking' or 'feeling-knowing'

challenge, and ultimately break down, an unsustainable binary between theory and practice.

Though arts and media PaR projects may ultimately require documentation and complementary writing, as noted above, the inquiry is undertaken primarily through the practice. That practice may be submitted as primary evidence of knowledge production or, better put, the process of knowing. Not all creative practices are intelligent and inquisitive in a manner conducive to knowledge-production but, as Melrose puts it, "some [but not all] expert practitioners *already theorise* in multi-dimensional, multi-schematic modes… just as it can be argued some writers theorise in writing but not others" (http://sfmelrose.org.uk/justintuitive, 2005, accessed 19 May 2011).

PaR and Conceptual Frameworks
The primary and distinctive modes of knowing in arts and media PaR projects (procedural knowledge or insider insights) frequently find resonance with inquiries in other domains. To be open - typically through reading, but also through engaging with other practices - to parallel inquiries elsewhere affords arts and media practitioner-researchers outsider perspectives in addition to their insider insights. For example, PaR PhD students are known to have been assisted in understanding - and ultimately in articulating - the specificity of their PaR inquiries and insider insights by conscious reference to the practices of others and conceptual thinking as articulated in the writings of others.

It must be emphasized that this is not a matter of seeking a theory to underpin - and justify, as it were - the practice. In Vygotsky's seminal understanding, it is the "dialogical character of learning" - a reciprocal material-ideal engagement moving "from action to thought" ([1934] 1986: xlv). In other terms it is where "know-how" resonates with "know that" (Nelson, 2013, 37*ff*). That is to say, it is where the difficulty of making explicit (for formal research audit purposes) the tacit knowing generated in arts practices (often held, as noted above, to be beyond what can be expressed by words and resistant to academic conventions of accountability) is assisted in its articulation by cross-reference to other parallel inquiries undertaken by other means which have found ways - often, though not always, in words - to make the tacit explicit.[17]

As remarked, writing is itself a practice and researchers who publish by the traditional means of academic papers and books work at them just as artists work at their (other) practices.[18] Clear articulation in words of complex thinking is not easy, and writers grope for adequate and felicitous formulations which do not easily slip ready-formed on to the page. Post-structuralism has taught us, moreover, that words do not unequivocally describe a fixed world but are rather multi-accented, if not slippery, in the construction of possible worlds. Research insights, however articulated, may in part be a matter of discursive aptness or aesthetics: advanced mathematicians find beauty in equations as much as they find solutions.

Traditionally, very specific research inquiries within a discipline, or sub-discipline, have required a literature review to establish what is already known prior to researchers making their own contributions. Arts and media PaR projects tend at the outset to be more open. Though an inquiry must initially be identified, the often playful nature of the early research process is open to a number of inter-disciplinary inter-faces and the insights gleaned by the end of the process may well be several rather singular. A practice review, locating the PaR inquiry in a context of other similar practices, may be more useful than a literature review. It involves accounts of, and critical reflection on, similar contemporary practices such that the distinction of the researcher's insights can be determined.[19] The reading programme undertaken may range across a number of domains in search of the resonances as recounted above rather than be limited to a specific topic within a domain.

In sum, though they are not without method or rigour, arts PaR inquiries proceed along an experiential pathway and adduce and evidence their insights by means which differ from 'the scientific method' or, indeed, the customary hermeneutics of the Humanities. It is worth noting that, in resisting the predominant concentration on hermeneutics in Humanities scholarship, Gumbrecht has sought a movement away from "an exclusively meaning-based relationship to the world" (2004, 77) proposing instead a "presence culture" affording "the immediate touch of cultural objects" (2004,79*ff*). In positing that affective aesthetics should be recognised in the dialectics of encounter, Gumbrecht's proposition for the Humanities account resonates with an advocacy of 'doing-knowing' in Arts PaR.

Arts in a multi-disciplinary research context: theatre exploring life through the lens of science

The complexity of the contemporary world, and awareness of the many approaches to engaging with it, has led advanced researchers in the sciences to develop multi-disciplinary laboratories.[20] This shift away from specialism recognises that there is not one answer to every question but a range of perspectival possibilities which, taken in conjunction, may advance knowledge provisionally rather than absolutely. Though, in Bourdieu's terms above, 'the scientific method' retains discursive power and some researchers hold on to its privileges, Lyotard has long since called in question the appropriateness under the postmodern condition of the Grand Narratives of the past.[21] New circumstances admit the potential of all disciplines to contribute something valuable and, indeed, many of the most interesting projects render porous the old arts/science binary to become truly inter-disciplinary. Research audit reveals the scope of such collaborations.

In the UK, collaborations between artists and scientists are increasingly common if only because funding awards (from institutions such as the Wellcome Trust and the Science & Technology Facilities Council) have favoured them. Indeed, some investigative arts production companies such as Fevered Sleep and Curious Directive have overtly taken inter-disciplinary research-based approaches to their creative work. Under the Impact Agenda, moreover, scientists are required more widely to disseminate and apply their work and as Laura Barnett, a reviewer of Curious Directive's *Pioneer* (2011), remarked, arts-science collaborations, "speak to the growing pressure on scientists to communicate their research to the public and, of course, to a genuine desire, on both sides, to share information and expertise" (*The Observer*, 03 August 2014).

The tag for Curious Directive's work is "theatre exploring life through the lens of science" (Curious Directive Showreel. https://www.youtube.com/watch?v=I0UY9Hsbkkc, accessed 12/11/15). *Your Last Breath* (2011) looked at climate change and medical innovation; *After the Rainfall* (2012) drew parallels between human behaviour and the architecture of ant colonies; and *Pioneer* (2014) concerns a fraught attempt to establish a human settlement on Mars. Many other contemporary companies have similar track records of working with scientists or with digital technologies.[22]

Conclusion

There may have been a 'blues skies' time when the pursuit of truth and knowledge in universities was unhindered by bureaucracy. In the current political climate, however, research audit such as REF is more likely to become widespread than fade away. Research in the Arts & Humanities is coming under increasing scrutiny in times of austerity but, to be positive, a good case for its worth may well arise out of the increased pressure to justify the domain. Conceptually as well as practically, the Arts & Humanities demonstrably have a lot to offer both to the academy and to society more broadly.

The concepts of 'performance' and 'performativity', for example, have permeated many disciplines in recognition that, whilst we may aspire to objectivity, all knowledge is more or less shot through with our passions and interests. In the complex inter-relations between subjectivity and objectivity, 'doing-knowing' in Gumbrecht's 'presence culture' has found an important place. After the failure of the Structuralist project instrumentally to justify the arts in the data-based, quasi-objective terms of the sciences, we have recognised that it is a category mistake to measure research in the arts against Popper's yardstick of falsifiability and rather to see its insights, in May's words, as "more akin to seeing something from a new perspective, and the different aspects and affordances that result" (2015: 73). Narratology, for example, has made significant contributions to understanding that all knowing is constructed in discourse typically through narrative frames. 'Post-narrative', indeed, parallels the move away from a Newtonian cause and effect approach in the contemporary sciences.[23]

Review by peers as in REF ensures that judgements are made by colleagues sensitive to the specificities of the domain in applying the common framework criteria of 'significance, rigour and originality'. Strong in their 'Impact', the Arts & Humanities show up well in REF in relation to a range of other disciplines with which they are increasingly in dialogue. But it must be acknowledged that by no means everybody is convinced about the value of the arts. The current UK government has appointed Lord Stern to conduct an independent review of REF with a view to the next audit, possibly in 2021, and possibly with an international dimension. However, Stern's chosen panel is drawn mainly from Russell Group universities and does not include any representation from the Arts &

Humanities. Moreover, his indication that, a simpler, lighter-touch, system for the REF might be developed raises once again the spectre of metrics.

Despite all that has been achieved in RAE/REF by the inclusion of the Arts & Humanities in an audit process with common core criteria for all disciplines, much remains to be done to redress imbalances between the valorisation of the arts and sciences in respect of both their epistemologies and funding. But REF marks a shift away from special pleading to an evidence base, and the Arts & Humanities should use its mechanisms to make their claim for recognition. To achieve full worth, however, the Arts & Humanities need to stand more confidently on distinctive epistemological ground. Where no discipline can lay claim to a privileged truth language, the equivalence, and value, of various modes of knowing must be affirmed wherever the opportunity arises.

References

Bay-Cheng, Sarah, Chiel Kattenbelt, Andy Lavender, Robin Nelson, eds. 2010. *Mapping Intermediality in Performance*. Amsterdam: Amsterdam University Press.

Bourdieu, Pierre. 1990. *The Logic of Practice*. Cambridge: Polity Press.

Gumbrecht, Hans Ulrich. 2004. *Production of Presence: What Meaning Cannot Convey*. Stanford, Ca: Stanford University Press.

HEFCE *The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management*. 2015. http://www.hefce.ac.uk/pubs/rereports/Year/2015/metrictide/Title,104463,en.html.

Lyotard, Jean-Francois. 1984 [1979]. *The Postmodern Condition. Manchester:* Manchester University Press.

May, Shaun. 2015. *Rethinking Practice as Research and the Cognitive Turn*. Basingstoke: Palgrave macmillan.

Melrose, Susan '… just intuitive…'. 2005. http://sfmelrose.org.uk/justintuitive.

Nelson, Robin. 2011. *Stephen Poliakoff on Stage and Screen*. London: Methuen Drama.

Nelson Robin. 2013. *Practice as Research in the Arts: Principles, Protocols, Pedagogies, Resistances*. Basingstoke: Palgrave macmillan.

Ryan, Marie-Laure. 2001. *Narrative as Virtual Reality: Immersion and Interactivity in Literature and Electronic Media. Baltimore, Maryland: John Hopkins University Press.*

Scott, Joanne. 2016.   Intermedial Praxis and PaR. Basingstoke: Palgrave macmillan.

Noë, Alva. 2004. *Action in Perception*. Cambridge, Mass: The MIT Press.

Vygotsky, Lev. 1986 [1934]. *Thought and Language* trans. newly revised and edited by Alex Kozulin. Cambridge Mass: The MIT Press.

Websites

https://en.wikipedia.org/wiki/Research_Assessment_Exercise

https://www.ucu.org.uk

http://oxcheps.new.ox.ac.uk/casebook/Resources/RVHE-FU_1%20DOC.pdf

http://www.ucu.org.uk/refpolicy

http://www.ucu.org.uk/rae2008

http://www.ucu.org.uk/media/3648/UCU-policy-briefing-Research-Excellence-Framework-REF-Dec-09/pdf/ucupolicy-brief_ref_dec09.pdf

http://www.ref.ac.uk/media/ref/content/expanel/member/Main%20Panel%20D%20overview%20report.pdf.

http://www.rae.ac.uk/pubs/2009/ov/

https://www.youtube.com/watch?v=I0UY9Hsbkkc

http://www.ahrc.ac.uk/documents/publications/leading-the-world/

Notes

1   For a history of UK research audit, see https://en.wikipedia.org/wiki/Research_Assessment_Exercise, accessed 03/01/016, to which this account is indebted. For a range of objections to such audit, see https://www.ucu.org.uk, the website of the main union of UK university lecturers'.

2   See   http://oxcheps.new.ox.ac.uk/casebook/Resources/RVHE-FU_1%20DOC.pdf, accessed 18/01/2016.

3   HE = Higher Education and HEI = Higher Education Institution (since, in the UK, they are not all universities). UoA = Unit of Assessment in REF since many subpanels cover a number of subject domain or disciplines

4   As follows (and retained for REF 2014):

Rating	Description
4*	Quality that is world-leading in terms of originality, significance and rigour
3*	Quality that is internationally excellent in terms of originality, significance and rigour but which nonetheless falls short of the highest standards of excellence
2*	Quality that is recognised internationally in terms of originality, significance and rigour
1*	Quality that is recognised nationally in terms of originality, significance and rigour
Unclassified	Quality that falls below the standard of nationally recognised work. Or work which does not meet the published definition of research for the purposes of this assessment.

5   See http://www.ucu.org.uk/refpolicy.

6   The evidence for this claim is anecdotal but undoubted by members of subpanel 35.

7   The evidence lies in the difference between the number of staff submitted and the number recorded as being part of a UoA. Though not all staff may have four eligible Outcomes, anecdotal evidence suggests that a significant number do.

8   See *Leading the World, The economic impact of UK arts and humanities research*. AHRC, 2009. http://www.ahrc.ac.uk/documents/publications/leading-the-world/, accessed 07/12/2015

9   A recent review, *The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management*, July 2015, confirms that no metric can currently provide a like-for-like replacement for REF peer review.

10   See Overview Report sub-panel 35, http://www.ref.ac.uk/media/ref/content/expanel/member/Main%20Panel%20D%20overview%20report.pdf. particularly p.100, para 37, and, for RAE 2008, see UOA 65, Main Panel O http://www.rae.ac.uk/pubs/2009/ov/, accessed 07/12/2014.

11   For a full discussion of Practice as Research in the Arts, see Nelson, 2013.

12   In the Impact category which carried a 20% weighting in the overall assessment, 83.9% was achieved across the piece, scored at 4*/3*grad-

ing, that is 'Outstanding' (44 %) and 'Very Considerable' (39.9 %). REF 01.2014, December 2014 03-04.

13 The professional focus here is on the arts and media but the principles of PaR might be applied across disciplines.

14 In this view, no statement is worthy of credit unless it is testable against the facts of experience as systematically and objectively observed.

15 Observation made by Frank Wilczek, theoretical physicist, mathematician and noble laureate, in discussion on 'Harmony and Balance', *Start the Week*, BBC Radio 4, 06 July 2015.

16 For an example of a worked and documented praxis, see Scott, Joanne (forthcoming 2016).

17 For an example, see Nelson, 2013, 76.

18 See May, 2015, 60-62 on the need to understand all forms of writing as practices and a discussion of the claim that all research is effectively practice as research

19 For an example, see Scott (forthcoming 2016).

20 At MIT for example.

21 See 1984.

22 See, for another example, Blast Theory, www.blasttheory.co.uk/our-work/.

23 For an account of post-narrative, see Ryan, Marie Laure, 2001.

The Affordances of Arts and Humanities in Multidisciplinary Projects
Contributions to Sensemaking Processes

Falk Heinrich

PhD, Associate Professor, Aalborg University, Denmark, Head of Studies (School of Communication, Art and Technology). Teaching and research areas: Art theory and aesthetics, interactive dramaturgy, and artistic methodology. Formerly, he worked as a theatre actor and -director and installation artist. Published books: Interaktiv digital installationkunst (2008) and Performing Beauty in Participatory Art and Culture (2014).

Abstract

The theme of this article is the role of aesthetics in providing one affordance of the arts and humanities in multidisciplinary research projects. The premise is that sense and sensemaking processes (as described by Weick (1995) and Luhmann (1984)) are at the core of multidisciplinary projects. This article discusses the potential of fiction and fictionalisation in multidisciplinary sensemaking processes and does so on two levels: the procedural level of the research project, and the level of a project's subject matter. On the process level, aesthetic contributions to sensemaking serve the multilayered and creative interaction between the meaning-producing participants. On the level of the subject field, aesthetic competences generate spaces of potentiality by means of observational participation that restrains applications of existing concepts and creates intermediary spaces of *non-sense*. These spaces are inevitable for the emergence of novel solutions to complex social challenges. The article illustrates its assertions through discussion of a research project.

Keywords multidisciplinary, sensemaking, non-sense, critical thinking, aesthetics

Introduction

In 2011 the British Research Council implemented one of its multidisciplinary sandpit initiatives.[1] The sandpit theme was 'Reducing CO2 emission by changing travel behaviour'. My colleague Prof. Mark Grimshaw, a researcher of music and sound, participated in this sandpit together with people from a range of academic disciplines, such as sociology, psychology, computer science, mathematicians, road engineers, fine and sound artists. A sandpit has to deal with a set social challenges and provides scientists with the opportunity to develop a complete research proposal within five days. During these five days, ideas are presented, discussed, altered, and rejected, and working groups are formed and reformed. The process is supported by facilitators and inspired by expert presentations. I asked my colleague how he saw his role as a humanities scholar and how he would describe his contribution? His answer was that from the outset he engaged in the embodied experience of the singular human being and in the question of how this embodied experience can be traced and measured. The resulting data was supposed to be one element in an electronic incentive system intended to alter human travel behaviour. 'We develop an experience sampling system via a smartphone platform for the collection and delivery of real-time information on subjective travel experience. In a series of small controlled trials we feedback information to individuals about their own experiences, and those of others, and we explore whether and how these interventions change behaviour.' (Research Councils GB 2015) The idea was to bring the individuals' emotionality and aesthetic sensibility into play.

Human experience is a complex affair and contains heterogeneous elements that are difficult to capture. Yet heterogeneity is also of key importance in multidisciplinary projects that aim to transcend scientific reductionism. My question here is thus, how can researchers from the arts and humanities facilitate this transcendence and pave the way to find solutions to complex challenges?

Premise and Thesis

This article reflects on one affordance[2] of the arts and humanities in multidisciplinary projects[3], the aim of which is to create understandings of and solutions to complex societal challenges. My definition of a project here includes research, educational, or business

development projects; I do not distinguish between these different domains because I want to focus on one affordance of the arts and humanities that is applicable to various types and contexts of multidisciplinary projects. This affordance can take many forms, ranging from the very concrete (e.g., a specific design solution) to a more abstract description of a problem field and its implications in terms of definitions, challenges, possibilities, etc. (e.g., a report).

Evidently, such multidisciplinary projects are developed on the basis of sensemaking (I will return to the notion of sensemaking). My contention is that humanistic methods and knowledge can facilitate and contribute to sensemaking processes in multidisciplinary projects by adding a critical and constructive perspective facilitated by the human capacity of constructing *as-if* scenarios (potential scenarios). This necessitates a human observer who takes into account the various dimensions of observation: first, personal experiences (the phenomenological aspect); second, an explanatory case (induction); and third, salient literature on the topic (deduction). As such, my contention has affinities with Luhmann's functional method (1990, 421f) that is oriented towards the examination of potentiality in the light of the difference between problem statements and solution finding. *As-if* scenarios are always prospective in their aim and might uncover potentiality by means of *non-sense* and purposelessness.

Sensemaking as a Conceptual and Practical Domain

Multidisciplinary projects mostly deal with complex issues that require various perspectives on the same subject matter in order to scrutinise the issue and find possible solutions. In these processes all participants are evidently engaged in sensemaking processes. Furthermore, given that this is an almost too quotidian term—used by everyone in expressions such as 'does this make sense?' or 'that makes sense to me'—sensemaking is also an academic concept with its own theoretical bearings and domains. The notion of sensemaking has, for example, been developed within organisation theory and in artificial intelligence systems.[4] The main proponents are Weick and Klein. I will shortly return to Weick's notion.

Sense is also one key element in Luhmann's system theory (1984). He declares that sense is the medium of decision making for both psychic and social systems. Luhmann defines sense as the differ-

ence between potentiality and actuality (Luhmann 1984, 93). Thus, sense acts as the emergence of the actual within potential instantiation and, vice versa, as the emergence of potentiality from the actual. Sense establishes an operational relationship between a psychic or social system and its environment. Of sole importance for my investigation is the fact that sense emerges in and as acts (systemic operations). Sense is not the same as meaning, interpretation, or knowledge, however, it is a process that might elicit meaning and can be extrapolated as knowledge. Multidisciplinary projects are comparable to 'interaction systems (Luhmann 1984) because interacting people drive every multidisciplinary project. Interaction systems operate as the basis of both communication (being a system of its own) and perception. Sensemaking is an operation of interaction systems (as it is for all social and cognitive systems) that seeks to fulfil the objective of this specific interaction system, namely to scrutinise selected issues and to find appropriate solutions. Sense emerges and manifests itself as, for example, premises and findings that lead to decisions such as those pertaining to new orientations and application methods. Sense is therefore something that happens outside of or between – but evidently not independent of – the individual participants.

Weick's theory is more domain specific because his theory scrutinises sensemaking in organisations. He asserts that sensemaking is a process in a more or less hierarchical structure that differentiates between decision makers and other members of an organisation. Sensemaking occurs when members have to implement decisions in the form of novel procedures or when they are confronted with situations that the organization has not accounted for. It is important to note that for Weick, sensemaking is also an act or an initiated decision that allows the subject, post factum, to find meaning in an altered situation. Sensemaking is an intrinsic part of the 'making' of a situation. The event activates the senses of the subject involved (ranging from mere sense perception to sensibility), either factually or imaginatively. Weick differentiates between sense and interpretation. 'Sensemaking is clearly about an activity or a process, whereas interpretation can be a process but is just as likely to describe a product' (Weick 1995, 13). Interpretation and meaning are used retroactively to understand and argue for the already created event/situation. Weick identifies seven main characteristics of sensemak-

ing, 'the enactment of sensible environment being one of them' (Weick 1995, 17). All seven characteristics are interesting for my discussion, but instead of presenting them upfront I want to refer to some of them in the course of my elaboration.

The approaches of Luhmann and Weick differ in that Weick links sense to an acting (and then interpreting) subject within an organisational (historical, cultural, administrative, etc.) context, whereas Luhmann understands sense as a medium of action that, firstly, drives systemic operations, and secondly, secures the interpenetration of communicational and psychic systems. Both approaches emphasise action as the primary characteristic of sense. However, both approaches seem to neglect the human body as the material-neurological basis for the 'interplay between action and interpretation' (Weick et al. 2005, 409).

Now, how can the arts and humanities participate in the sense-making of multidisciplinary projects?

Since Dilthey, the majority of the arts and humanities have outspokenly been engaged in hermeneutics (although in different forms and with different aims) and thus with meaning ascription through interpretation.[5] Nietzsche claims that interpretation is the only path to understanding (e.g., Schacht, 1984). Academic interpretation is dependent on an interpreter (observer) and a subject matter (which in most human sciences is a kind of cultural product). Nonetheless, meaning is not a private opinion, but is the result of a rigorous process of inference, critical, dialectical and causal argumentation, comparison, abduction, etc., which is aimed at the extraction of significance that is general, abstract, and valid not only for the academic interpreter. Dilthey's distinction between the explanatory discourse of the natural sciences (*Erklärung*) and the humanities' discourse of understanding (*Verstehen*) through interpretation is still reflected in the self-understanding of many humanities researcher because the human sciences emphasise and investigate the human as an individual cultural being within a social, material, political, and religious context. This has determined both the methodologies and subject fields of the arts and humanities (for a detailed and nationally differentiated description, see Holm et al. 2015).

The epistemological distinction between the sciences has become increasingly fuzzy and obsolete. The role of the academic researcher of all disciplines has undergone a transformation from

being an extractor of stable, external (objective) truth (especially in the natural sciences) to that of an observer who is part of the observed subjects matter. Furthermore, natural scientists engage in interpretation by means of theorems and axioms (which are often only valid in their own conceptual field). Faye (2008, 73) contends that both natural and human sciences work with understanding (*Verstehen)* and explanation (*Erklärung*) alike, because today these concepts cannot be separated.

This development is furthered by an increasing social demand stipulating that all sciences should participate in solution finding concerning existing and emerging challenges (national and European research calls reflect this very clearly). Hence, the deployment of theorems and axioms to solution finding processes is changing the academic discourse – including the research discourses of the humanities. This change can be described as a shift of focus from the discovery of truth(s) to the development of theories and axioms that are entangled with practical solution finding. Latour (1999) convincingly explains that the scientist is an actor in a heterogeneous network that might yield novel objects and materials. This and similar views echo Vico's old dictum: *Verum ipsum factum.* My point here is that academic research today is increasingly seen as a creative endeavour: academic research constructs or produces something (for example, solutions). In my view, creative research includes theory production[6]; and theory, in a recursive movement, is today also seen as a means of creation and emergence.

How can humanistic theories and methods be means of emergence of novel understandings and solutions in multidisciplinary sensemaking processes?

The Dimension of Fiction in Sensemaking Processes

This article does not allow for a thorough account of all possible roles and affordances of the human sciences, not least because of the complexity and multitude of the various disciplines within the arts and humanities. Here, I will propose and discuss fiction as a part of critical, theoretical thinking.

Critical thinking is one the trademarks of the arts and humanities (see, for example, Holm et al. (2015)). 'Critical thinking is the intellectually disciplined process of actively and skilfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating informa-

tion gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.' (Scriven and Paul, 1987) Critical thinking is a means to thoroughly untangle the premises, components, discourses, and implications of human descriptions of a whole array of phenomena and subject fields, ranging from texts as cultural artefacts to anthropological observations and interviews. Critical thinking seeks to uncover hidden conditions and their consequences by means of, for example, comparative analysis, deconstruction, or deduction.

Critical thinking can also be used to unfold a field of potentiality that is necessary for novel solution finding. Potentiality is based on the simultaneity and heterogeneity of discrete elements. The very result of critical thinking is (or, more modestly, can be) discrete elements. Among many others, the elements can be technical conditions, social and political structures, documented discourses, or consequences for users (experiences, procedures, knowledge).

The sandpit workshop mentioned in the beginning is organized in such a way that researchers from different academic and artistic disciplines form momentary working teams. In the beginning of the workshop, the researchers can form, join and leave the teams contributing with analyses, opinions and early ideas. Many different elements and aspects are up in the air, not yet ordered and categorised, but all somehow related to the theme of the sandpit workshop.

The question is now: How can the analytical fields of uncoupled elements be recombined into novel solutions? Clearly, multidisciplinary teams cannot simply deploy this opened field of uncoupled abstract elements without re-transforming them into concrete images not yet seen. But how could that be done? My short answer is, by means of aesthetics. The remainder of the article attempts to explain why this is the case.

In *Truth and Method,* Gadamer writes about the aesthetic etymology of theory by returning to the Greek concept of *theoria*. *Theoria* described the ancient man's participation in festivals for honouring the gods (Davey 2006, 32), that is, the ability to purely contemplate the universe. Gadamer (2004, 122) re-interprets *theoria* as personal engagement being the very foundation of any cognitive activity. *Theoria* is a meeting or practice where the observer is a participant that opens and gives him/herself to the presented event. This meet-

ing (*theoria*) 'is a true participation, not something active, but something passive (pathos), namely being totally involved in and carried away by what one sees' (Gadamer 2004, 122) In contrast to Gadamer, Davey claims that *theoria* is not a 'disinterested detachment, but an intensive involvement … an enabling act' (Davey 2006, 32) that brings forth the subject of contemplation (see also Polanyi's similar notion of *indwelling*). In this sense, theoretical contemplation is always dependent on the observer, yet also transcends the observer because s/he is carried away by and carried into the observed object. Theoretical perception (if I may use this apparent oxymoron) unfolds as an undetermined space, where the propensity for categorization of the observed object is counteracted by the object's appearance entailing polysemantism on the basis of perceptual manifold. 'The importance of *theoria* as aesthetic contemplation is that it creates a perceptual space in which the difference between how such a subject matter appears in an artwork and what is beyond its initial appearance in that work, begins itself to emerge"[7] (Davey 2006, 33). Thus, *theoria* is a continuous process of comprehension (on the basis of existing concepts) and the decomposition of existing concepts. The *theoria* dimension in the sandpit project example is the idea to represent commuting experiences as sound files that contain complex, mostly aesthetic, information and to allow for different individual interpretations and feelings. Experience represented as sampled sound files does not convey defined messages but contains a multiplicity of information not yet conceptualized. The listener – as well as the researcher – can vicariously and sensuously partake in the experience of other commuters.

The multifarious relationship between the human observer and the observed phenomena (in the arts and humanities, typically human actions and expressions) emphasises the aesthetic dimensions of academic investigations within fields as diverse as language, media studies, and anthropology. The aesthetic facet of theory does not aim at determining, defining, or otherwise categorising an observed phenomenon, but at creating a field of possible interpretations and comprehensions. Furthermore, an act of *theoria* cannot be solely understood in terms of subjectivity, in as much as *theoria* is an act of transcendence that, at best, pushes the observer out of his or her preconditions. In other words, the aesthetic part of *theoria* simultaneously relies on and defies already existing internalised

structures and concepts of interpretation. This is resonant with Kant's notion of the aesthetic that accentuates free play between imagination and the laws of understanding.[8] Rundell (1994, 93) explains that one category of imagination, namely productive imagination, is constitutive of the interaction between sensibility and understanding, it is 'the transcendental function of the imagination' (Kant cited in Rundell 1994, 93). Rundell identifies the transformative capacity of the imagination as creativity that is able to not only synthesise sensibility into intelligible (*a posteriori*) forms, but is also able to transform these forms.[9]

The aesthetic dimension of theory and theorisation finds one of its most full-blown forms in Vaihinger's, *The Philosophy of As-if* (1925/2009). Grounding his philosophy in Kant's axiom that phenomena cannot be apprehended objectively but remain a mental construct, Vaihinger claims that some scientific explanations are overt fictions— mental constructs with no claim to truth. This does not diminish their scientific function, on the contrary, because their value is expediency. Unlike hypotheses, which need to be verified, scientific fictions need justification, for example, the search for applicable explanations and solutions to set problems. 'If a fictional construct is formed, its excuse and justification must be that it is of service to discursive thought' (Vaihinger 1925/2009, 89). Vaihinger claims that scientific fiction is a function of our logical mind. Scientific fictions are artful speculations on the basis of sense perception that are used to find applicable solutions by imagining a field of possibilities that need not be realistic. He claims that aesthetic fiction (especially poetry and drama) and scientific fiction gradually be transformed into each other. Furthermore, aesthetic and scientific fictions have an indispensable practical function (Vaihinger 1925/2009, 84): fictions enact possible scenarios by concretising ideas. Imaginations are fictitious enactments that are indispensable for sensemaking processes.

Today, the concept of fiction is much broader, not solely referring to an artistic form (e.g., literature, film, and theatre). The human capacity to fictionalise, to create possible future narratives and scenarios around a defined problem, has, for example, become a design method (design fiction, e.g., Bleecker 2009; Hales 2013;). From the outset, Vaihinger's logical function is first of all an intrinsic part of analysis proper, and as a corollary, a heuristic means in applied

research. Kant has already observed that analysis is not possible without synthesis, without a hypothesis, a hunch that can be proven by analysis (decomposition) (Kant 1997, A716–7). As-if scenarios belong to this category.

The indissolubility of synthesis (e.g., as-if strategies) and analysis, found in the arts and humanities, plays an important part for emergence and solution finding in multidisciplinary projects. The aesthetic dimension of *as-if* theory (fictionalisation) allows for the transcendence of causal-logical solutions that are not able to account for the complexity of multidisciplinary projects. Bredsdorff and Thyssen's book, *Til Glæden. Om Humanisme og Humaniora* (1980), defines the capacity to think of alternatives within a field of potentiality as the aesthetic dimension entailing a distinct motivation and phenomenological-hermeneutic relation that plays with imagination and understanding, as specified by Kant, Rundell, Gadamer, and Davey. Gumbrecht refers to this simply as 'risky thinking' (Gumbrecht 2011).

The aforementioned sandpit project serves again as an example: the conveyance of commuting experiences by recorded sound files constructs fictitious realms for the user of the system—even though the sounds are real. These *as-if* realms constitute imagined alternatives to the user's current commuting situation. In order to come up with, and believe in, such ideas, the multidisciplinary group of researchers must have the will to leave rigid scientific causal logic (for example, the trust that having only knowledge about the quantity of emission is a sufficient means of persuasion and behavioural change) and take seriously the power of projected imagined alternatives that address individuals' aesthetic dimensions.

Fictionalisation is one example of the methods found in the arts that might be employed to create heterogenic potentiality fields made up of discrete, abstract and concrete elements such as feelings and sense perceptions, phenomenal objects, parts of structures and imagined solutions ideas. Of course, I do not claim that only the arts and humanities are proficient in creating these potentiality fields; nonetheless, I want to claim that the arts and humanities can introduce heterogeneity into these fields due to their aesthetic and critical focus on the singular human, prominent in both their research methods and subject fields.

The focus on solution finding (creation) also brings the arts onto the (academic) stage, because they see synthesis as an analytical means. The arts create (e.g., tangible and representational objects, performances, events —actual or fictive) and make sense *a posteriori*, so to speak. Not surprisingly, Weick's words fit very well: art as sensemaking 'enacts sensible environments' (Weick, 1995). Research projects increasingly integrate artistic approaches, not with the objective of creating works of art, but to widen the field of potentiality. The arts' ability to create objects and situations not subservient to specific solution finding, opens up alternative perspectives that just might include novel dimensions that are not readily associated with the subject field at hand.

The Application of Sensemaking to a Multidisciplinary Project

In this closing section I want to concretise my reflections in regard to the sensemaking processes. In my field, sensemaking processes have a dual target: first, internal multidisciplinary group work needs to be based on sensemaking, and second, the proposed solution needs to take into account the sensemaking processes of the targeted group of people. Evidently, both sensemaking processes can be dealt with separately, however, my point would be that the arts and humanities have the methodological and epistemological means to build bridges between these two sides by including the researcher's phenomenological qualities into the analytical and solution finding process. A researcher, who is able to making him or herself as sensuously partaking being an intrinsic methodological part, might transcend existing conceptual limitations. Likewise, historical, and still existing, academic disciplines' conceptual confines hinder multidisciplinary collaborations and thus the finding of solutions that incorporate a variety of discourses and perspectives. An increased focus on researchers' emotional and aesthetic (imaginative) dimensions could contribute to overcoming these divides and thus enable a fruitful dialogue.

Let me be more specific by returning to the sandpit example presented at the beginning of this article. The resulting sandpit, in which my colleague participated, states: 'We develop an experience sampling system via a smartphone platform for the collection and delivery of real-time information on subjective travel experience. In

a series of small controlled trials, we feedback information to individuals about their own experiences, and those of others, and we explore whether and how these interventions change behaviour. The idea is one of user-informed behavioural interventions to encourage self-motivated change […]" (Research Councils GB, 2015).[10] Thus, the method is that subjective travel experiences are partially conveyed as sound files. The experience is an aesthetic experience that primarily addresses the affective and perceptual capacities of the human being and not exclusively the rational-ethical capabilities. This idea surpasses academic-analytical thinking in that it is not exclusively based on reasonability, but includes aesthetics. In an academic solution-bound context aesthetic experience might become a field of *non-sense* because it does not pertain to rational logic, where intelligible reasons for the necessity of changed travel behaviour are far too often taken as the very motivation for the targeted persons' actual decision making processes. The generation of ideas for the solution to complex problems must intend to push boundaries and transcend the conceptual limits of the subject fields by allowing *nonsensical* elements (defined in contrast to the subject field's conceptual structures and discourses). Sense is always a construct that structures and categorises a heterogeneous and fluctuating (and thus, in principle, nonsensical) space with various possible realisations. Contemplating the targeted users' embodied situation (for example, by means of *theoria* or indwelling (Polanyi 2009, 17) allows for the recognition of the users' pre-determined actuality. The sensory manifold of immediacy in aesthetic perception transcends conceptual categorisation. This is the realm of *non-sense* or *not-yet-sense*.

Weick lists seven characteristics of sensemaking; one of them has already been mentioned: 'enacting sensible environments'. For the user of the intended travel experience system, sense is encapsulated in experiences already lived by others. The intended system (smart phone app) would provide the user with a sensorial relation to the experiences of others. This is another of Weick's dimensions of sensemaking processes: the social – the interactive or intersubjective – dimension. According to Weick, sense is constructed between people (Weick 1995, 39), and this is true of any kind of sense: rational, feeling, or aesthetic-imaginative. Sensemaking for users of the intended travel experience app is also retrospective, which, according to Weick, is yet another feature of sensemaking. The user

compares his/her own traffic practices with the experiences of others, which in one way or another resonate with their own sensorial experiences. To change behaviour here also means inducing *non-sensemaking*, which in this case means to remove existing behaviour patterns and opening a momentary field of *non-sense,* because new behaviours are not yet in place. For example, using the private car for commuting to a big city means long queues and waiting times of uncertain length, pollution, etc., eventually bringing about emotional distress. On the other hand, a private car provides independence, flexibility, and membership of a higher social level (one that can afford cars and time). These pros and cons make it quite clear that rational arguments are a poor weapon against the feelings of independence and pride (social status).

Sociality and retrospection are not only sensemaking features in regard to the subject field of a specific project, but they are also features of the research project group proper because its members' sensemaking processes must reflect and scrutinise the preliminary solutions. Multidisciplinarity calls for and makes possible solutions that might engage the targeted person's multidimensional, dynamic being and agency, comprised of rational, emotional, socio-dynamic, and aesthetic features. This is why sensemaking is an ongoing process without a final conclusion. Weick uses Heidegger's metaphor of always being thrown into new situations. This 'thrownness' also necessitates intuition based on aesthetics and imagination rather than only documented data and confirmed knowledge, as the exact sciences predescribe. Intuition is an immediate (re-)action based on personal experiences. In concrete terms, it is futile to believe that users will change their travel behaviour once and for all as a result of reasoned arguments. There must be a transference of aesthetic sensibility and knowledge from the project member to the project's target group and vice versa. This includes gaps that are spaces of non-sense.

References

Biilmann, Magnus, Simo Køppe and Claus Emmeche. 2015. "Humaniora og 'de Nye Videnskaber'." In *Kampen om Disciplinerne*, edited by David B. Pedersen, et al., 365-396, København: Hans Reitzel Forlag.

Bleecker, Julian. 2009. "Design Fiction – A Short Essay on Design, Science, Fact and Fiction". http://www.nearfuturelaboratory. com (accessed Maj 19, 2016).

Bredsdorff, Thomas, Mihail Larsen and Ole Thyssen. 1980. *Til Glæden. Om Humanisme og Humaniora*. København: Gyldendal.

Davey, Nicolas. 2006. "Art and Theoria." In *Thinking through Art*, edited by Kathy Macleod and Lin Holdrigde, 20-39. London: Routledge.

Faye, Jan. 2008. "Fra Åndsvidenskab til Humanvidenskab." In *Ideer vi Lever På: Humanistisk Viden i Vidensamfundet*, edited by Finn Collin and Jan Faye. København: Akademisk Forlag: 58-75.

Gadamer, Hans-Georg. 2004. *Truth and Method*. London, New York: Continuum.

Gumbrecht, Hans Ulrich. 2011. *"Misere der Meisterdenker."* In *Der Freitag.* January 2011.

Hales, Derek. 2013. "Design Fictions an Introduction and Provisional Taxonomy." *Digital Creativity* 24, 1: 1-10.

Harper, Douglas. 2001-2016. *Online Etymology Dictionary.* (accessed Maj 19, 2016). http://etymonline.com/index.php

Holm, Poul, Ame Jarrick, and Dominic Scott. 2015. *Humanities World Report 2015.* New York: Palgrave Macmillan.

Kant, Immanuel. *1997. Critique of Pure Reason, 1st edn. 1781, 2nd edn. 1787*. Translated by Paul Guyer and Allen W. Wood. Cambridge: Cambridge University Press.

Latour, Buno. 1999. *Pandora's Hope.* Cambridge, London: Harvard University Press.

Luhmann, Niklas. 1984. *Soziale Systeme*. Frankfurt a. M: Suhrkamp.

Luhmann, Niklas. 1990. *Die Wissenschaft der Gesellschaft.* Frankfurt a. M: Suhrkamp.

Polanyi, Michael. 2009. *The Tacit Dimension.* Chicago: The University of Chicago Press

Rundell, John. 1994. "Creativity and Judgment: Kant on Reason and Imagination." In *Culture and Creativity*, edited by Robinson, Gillian and John Rundell, chapter 5, London, New York: Routledge.

Schacht, Richard. 1984. "Nietzsche on Philosophy, Interpretation and Truth." *Noûs* 18, 1: 75-85.

Scriven, Michael and Richard. Paul. 1987. Statement presented at the 8th Annual International Conference on Critical Thinking

and Education Reform, (accessed Maj 19, 2016). http://www.criticalthinking.org/pages/defining-critical-thinking/766

Vaihinger, Hans. 1925. *The Philosopgy of "As-if" – A System of Theoretical, Practical and Religious Fictions of Mankind.* New York: Harcourt, Brace and Company.

Weick, Karl E. 1995. *Sensemaking in Organizations.* Thousand Oaks: Sage Publication.

Weick, Karl, Kathleen Sutcliffe and David Obstfeld. 2005. "Organizing and the process of Sensemaking." *Organization Science*, 16, 4: 401–421.

Notes

1 For a thorough description of the sandpit format, see: https://www.epsrc.ac.uk/funding/howtoapply/routes/network/ideas/whatisasandpit/. This sandpit example is but one of various other mobility studies that take into account human perception and experience. As such it is not a new approach. I chose the sandpit project as an example because of its focus on multidisciplinarity and because it includes aesthetic and artistic aspects.

2 The notion of *affordance* was introduced by Gibson to signify an object's or environment's inherent "action possibilities" that are readily recognizable and usable by an external agent. Norman has applied the term to the field of design theory. Even though it is not a familiar concept in humanities scholarship, I choose it because of its double scope: the arts and humanities' inherent possibilities that have to be realized and operationalized in multidisciplinary projects.

3 That does not mean that the so-called classic humanistic disciplines are obsolete. On the contrary, humanistic roles and functions in multidisciplinary projects needs to be grounded in and nourished by monodisciplines with well-established humanist subject fields and methodologies. Monodisciplinary approaches and subject fields can be seen as focalisation boxes that protect and develop humanist conceptualisations.

4 Klein spells the notion with a hyphen: sense-making. I could not find an academic reason for this distinction.

5 Since Dilthey, the scope and subject field of hermeneutics has broadened considerably to include visual expressions, events, and media phenom-

ena, and also to include phenomenological aspect of the meaning making process.

6 The notion of theory covers a diverse field of abstractions and generalisations on the basis of extracted and compiled data from particular incidences or objects. Theories are models of explanation that in a recursive movement can be concretised and applied to singular cases. Theories might yield both explanation and understanding: understanding has a phenomenological-reflective tenor, whereas explanation has a functional and agential one.

7 Davey writes about *theoria* in relation to art. However, there is only one etymology for the concept of theory –participating, contemplation, and speculation (Harper 2015) – and this can thus be applied to all theories and subject fields.

8 One might object and claim also that the humanities must acquiesce to academic rigor as a means of validating methods. The resulting data will provide a trustworthy basis for more or less unequivocal analysis. One forgets though that the selection of method is founded on a primary contemplation of the phenomenon in question, which, already at this early stage, synthesises perceptual data into proto-meaningful data-clusters.

9 The difference is that Kant seeks the transcendental function of imagination as mental capacities of the subject, whereas Gadamer/Davey postulate a transcendence of subjectivity be means of participatory observation.

10 (http://gtr.rcuk.ac.uk/projects?ref=EP/J004715/1, 2015)

Specialized Languages
The alter ego of any research field

Birthe Mousten

PhD translation and localization, MA English, BA German, Diploma courses in sales and marketing. Lecturer at Aalborg University, Aarhus University, and Southern Denmark University at Odense. Research areas: localization, globalization, translation, didactics.

Anne Lise Laursen

MA Spanish, Associate Professor Emerita in Business Communication at Business and Social Sciences, Aarhus University, Aarhus, Denmark. Research areas: lexicography, translation and corpus use in business contexts. She is a member of the Danish Association of Lexicographers.

Abstract

Across different fields of research, one feature is often overlooked: the use of language for specialized purposes (LSP) as a cross-discipline. Mastering cross-disciplinarity is the precondition for communicating detailed results within any field. Researchers in specialized languages work cross-disciplinarily, because they work with both derivative and contributory approaches. Derivative, because specialized language retrieves its philosophy of science as well as methods from both the natural sciences, social sciences and humanistic sciences. Contributory because language results support the communication of other sciences. Take for instance computational linguistics: its derivative part uses the competences and methods from computer science and couples them with linguistics; its contributory part is the lexicographical, terminological and syntactical results within a specific domain or genre that help science fields communicate their findings. With this article, we want to create awareness of the work in this special area of language studies and of the inherent cross-disciplinarity that makes LSP special compared to common-core language. An acknowledgement of the importance of this field both in terms of more empirical studies and in

terms of a greater application of the results would give language specialists in trade and industry a solid and updated basis for communication and language use.

Background

A general question from society is what humanities can contribute with, on its own and cross-disciplinarily. On its own, as part of humanistic sciences, language has a fundamental role in describing the mechanics of communication. Cross-disciplinarily, specialized languages bridge not only a communicative void, but add to defining and clarifying the knowledge basis of any research field. In recent years, the focus on relations between language and societal factors is gaining ground. Within LSP as an academic discipline, this relation has mainly been researched in academic genres, for instance in abstracts, research grant proposals, etc. (Biber 2006; Swales 1990). There are only scarce academic studies dedicated to specialized language applied in a trade and industry context. Trade and industry is currently dominated by companies which set up prescriptive rules for specialized language, for instance in the form of language policies and templates. These systems are unable to cope with the challenges of the new millennium with its increased use of neologisms, inter-language transfer and new genres of communication, etc. This is a challenge, to which specialized language as a cross-discipline can supply methods from the academic world to help create an overview in an applied context. Generally, the linguists' role is to create consciousness and awareness of characteristics in specialized texts, thus contributing to clear and unambiguous communication between expert-to-expert or expert-to-layperson across disciplines.

Language for specialized purposes (LSP), also known as specialized language, is linked to discourse communities shared by specialists in a given domain. The insight into and work with specialized languages are decisive for a shared understanding between experts who learn to use a logical, united, unambiguous discourse for developing their specialized fields. In addition, specialized language in an adapted form is a means to communicate the substance of the field to external semi-professionals, students or lay persons.

In a translation context, specialized language is a challenge because it develops differently in different languages.

As explained above, we shall address the need for an academic approach to the fields of linguistics which help trade and industry, as well as science and technology cope with their challenges to create meaningful communication by developing and drawing on the specialized register for either laypersons or for experts. The fields in question are terminology, lexicography and textual linguistics. We shall also address how cross-disciplinarity is involved in the terminological, lexicographic and textual-linguistic processes.

Terminology and cross-disciplinarity

The main function of terminology is to create an overview, to document or ensure consistent language use, monolingually or bilingually. This aim is emphasized by the Handbook of Terminology:

> The HoT aims at disseminating knowledge about terminology (management) … to a broad audience: students, researchers, professionals and lecturers in terminology, scholars and experts from other disciplines (among which linguistics, life sciences, metrology, chemistry, law studies, machine engineering, and actually any expert domain). In addition, it addresses any of those with a professional or personal interest in multilingual terminology, translation, interpreting, localization, editing, etc. (Kockaert and Steurs 2015, ix-x).

The quotation labels a number of specialists and students as possible stakeholders in both the input and output sides of terminological science. In general, domains such as law, engineering, life sciences and economics are characterized by special linguistic features at different levels referred to as the register (ref. e.g. Halliday and Hasan 1976). The register concept is thus most easily understood as a particular situational configuration of linguistic resources (Wales 2001, 337). Within engineering, for instances, there will be differences between promotional texts and technical documentation.

The core of the register is the term, which—unlike words in Language for General Purposes (LGP)—is unambiguously defined by pairing concept and term. The pioneers of the terminology disci-

pline, notably Schlomann and Wüster, worked cross-disciplinarily as they were subject-field experts dedicated to structuring the vocabulary of specialist areas. Later, terminologists leaning on the early work of subject specialists were normally linguists or translators (Humbley 1997, 25). The term and its definition normally emanate through the discourse in different disciplines. Term management, in turn, is cross-disciplinary and involves extraction of terms and analysis of the precise definition of a term as well as clarification of conceptual relations, such as hypernyms – the more general concepts, for instance vegetable; hyponyms – as the included elements under the hypernym, for instance radish and carrot; and synonyms – the same meaning of a word in different contexts (Wales 2001), for instance the Latin radicula for radish and Latin carota for carrot. Though linguistics is not normally associated with terminology (Hummel 2009, 109), a linguistic apparatus is involved at terminological level, i.e. from the identification of term candidates and classification of terms to selection of information categories in a database. The difficulty of term management is the additional, specialized knowledge needed to cope with a specialized discipline. In such fields, cross-disciplinarity is first of all at play for linguists, who have to acquire semi-professional knowledge. Secondly, cross-disciplinarity is at play in the cooperation between semi-professional linguists and field experts. And thirdly, cross-disciplinarity results in products generated by linguists and domain experts from e.g. medicine, law, economics and technology.

The strict definition doctrine within terminology has led some terminologists to question just who is supposed to use it: experts know the definition already, and laymen do not have the subject knowledge to make use of it (Humbley 1997, 25). Faber pinpoints this problem:

Although it is not infrequent for experts with an acceptable level of a second language to try to translate texts because of their knowledge of terminological correspondences, they generally find that writing an article in another language is far from simple. In a parallel way, some translators believe that their syntactic and semantic knowledge of two languages guarantees an adequate translation of a scientific or technical text without any other previous preparation or documentation. Both enterprises are generally destined to failure (Faber 2009, 108).

Terminology is derivative because professions such as engineering and natural sciences provide the raw material; and contributory because the product is returned to the research fields and companies in the form of terminology databases. An example is the term base of the European Union (IATE 2016).

Specialized lexicography and cross-disciplinarity

Lexicography is a cross-discipline which helps bridge knowledge communication asymmetries between subject-matter experts and laymen. In contrast to the terminological product – at least classical terminology, user adaption is the signature of specialized lexicography. The definition of the user situations (for instance translation or conceptual understanding) and the user groups (for instance expert, semi-expert or layman) determine the information categories. There is a full range of linguistic and extra-linguistic information, including parts of speech (POS), collocations, phrases, meanings, discourse types, etc., all depending on the type of dictionary.

Especially the meaning or extended definition category, including encyclopaedic information and cross-references to related entries, is essential here to cope with the knowledge gap described above. Also involved are antonyms – the contrasts of meaning; polysemes – words with more than one meaning (Wales 2001), etc. Although the linguistic apparatus is basic, lexicographers have to work either cross-disciplinarily or collaborate with a subject expert. The input of specialized lexicography comes from the domains in the form of texts. This raw material is synthesized to define and delimit lexical terms and their linguistic use. The raw material is thus basically the same as for terminology, but the processing of it and the output differ to make it user-oriented. Hence, the output of lexicography is suitable as the basis for text writing, translation or reception.

Textual linguistics across disciplines

As mentioned earlier, the core of register is the lexical choices within a genre or a domain. But register knowledge also includes genre and domain literacy. Domains are characterized by content and the corresponding lexicon, while genres are characterized by the choice of linguistic elements as a function of extra-linguistic factors, the rationale in the discourse community, and rhetorical strategies in terms of progression of strategic moves (Swales 1990). Genre litera-

cy includes insight into the formalization of knowledge, spanning from the set-up of a text, over logical sequencing of information to typical phrases used as well as special connectors, anaphors and cataphors, grammatical choices, etc. In a cross-disciplinary perspective, it is noteworthy that job adverts for technical writers are often open for both linguists interested in technology and technicians with a flair for languages.

Translation as a special case

More than any other discipline, the translation of LSP texts draws on the entire range of linguistic fields outlined above, including cross-disciplinary knowledge. The translation of LSP texts is in no way a straightforward or one-to-one relation between linguistic elements in the source and target texts. In the first place, it is necessary for a translator to cope with any knowledge gap to be able to transfer the meaning of the source text. Secondly, in the transfer from source to target text, a translator can be confronted with different challenges and choices.

The constant development of any special field includes new concepts and terms, or old terms with new definitions (Nistrup Madsen 1999, 107; Engberg 2002), or different conceptual systems in different countries (Fischer 2010, 32). Experts may have different terminologies for the same concepts, or there may be a terminological battle in the coinage of new inventions (Freixa 2006), etc.

One example of this is found in the SEO (search-engine-optimization) field, where Danish and Spanish coin different concepts for the same phenomenon that originated in English. Table 1 below shows the languages' alternative listing for the word crawler.

English	Spanish	Danish
Crawler Spider	Crawler Spider Rastreador Araña	Crawler Spider Edderkop

Table 1: Search engine and its synonyms in English, Spanish and Danish

Both English, Spanish and Danish use the words crawler and spider. However, to reach the target audiences, Spanish adds ras-

treador and araña as possible synonyms, Danish adds edderkop. In Danish, the English and Danish terms compete directly, whereas the battle in Spanish takes place by one word being stated first, and the chosen local synonym in a parenthesis (Jensen et al. 2012, 26), cf. "Un crawler (rastreador) es un programa que recupera páginas web." (Benítez Andrades 2010, 1).

So the one-to-one relationship in the terminological field is an oversimplification which means that an ongoing check of terminology is needed. Scarpa refers to the problem of incommensurability in LSP translation (Scarpa 2008, 134-139). Likewise, the combinatorial choices, such as domain-specific collocates or phrases, cannot be made intuitively or by means of introspection, but need factual checks in target language comparable texts, etc. Finally, on the textual level, choices have to be made within the dichotomy of direct-indirect translation (Vinay and Darbelnet 1958/2000). A direct, or literal translation, follows the source text as closely as possible with respect for grammatical conventions in the target language. An indirect translation emphasizes the linguistic and stylistic expectations of the target audience with the purpose of producing an idiomatic translation. In this respect, indirect translation is a kind of target-audience orientation.

On a continuum between a source-text orientation and a target-audience orientation in translation, the content is subject to change in a target-audience orientation within the fields of specialized language. Content changes can be ascribed to socio-cultural differences between source cultures and target cultures. In the automotive industry, for example, a right-side steering wheel can be changed to a left-side steering wheel depending on the market. In an LSP context – apart from minor genre differences – legal texts will often require direct translation in order to maintain the legal effect of the original document while other texts, e.g. technical manuals or financial reporting, will benefit from indirect translation, which means adapting the text to target text conventions to achieve a communicative effect and make it more recognizable for a target audience.

Hence, the general view of specialized translation from an outsider's point of view – that the communicative process and result are the same all over the world – is basically flawed. The precision and complexity of the cross-disciplinary work processes make the work of specialized-language translators essentially different from

the work of literary translators, who have a primary wish to create literary effects in texts. LSP translators work with a narrower focus on knowledge precision and specialized target group adaptation.

These different work processes surfaced in a study of LSP and LGP students' translation methods and research procedures when the translators were subjected to translating both LSP and LGP genres. It appeared that each group brought its own translating strategies into the work with the unfamiliar genres. After the translation experiment, the LSP translators found the LGP genres fun to translate, but focused very much on terminology precision rather than literary effect. The LGP translators, on the other hand, were quite lenient in their choice of LSP terminology and had a spare-me attitude to LSP translation in the future (Dragsted and Hvelplund 2015).

Cross-disciplinarity historically and beyond

Rounding off our discussion of cross-disciplinarity, we argued that linguistics has both a derivative and a contributory part. The derivative part can for instance be ascribed to Wittgenstein's idea of a logical link between language and the way the world is described (Wittgenstein 1922). A practical example of this logical link is the work of Carl von Linné, who in the 18th century organized the botanical world (Karsch 2006, 173), thereby supplying the framework for other scientists and linguists to pursue the organization of the world at large. The 20th century saw subject-matter experts, such as Wüster and Drezen, working with terminology management (Picht 1998, 341f). Later on, different fields from natural sciences, social sciences and linguistics recognized cross-disciplinarity as a necessity. Picht's two examples are technology and economics, in which the link to linguistics is expressed:

> Für beide Wissenschaften also: für die Sprachwissenschaft wie für die Wirtschaftswissenschaft ist die Soziologie ein neuer Anschauungshintergrund geworden."
> (Levy 1932, quoted by Picht 1998, 339).

This necessity of language conventions and genre literacy to express knowledge gradually found its form in English and other languages, once Latin was dispensed with as the science lingua franca

(Sollaci 2004). Newton was one of the first scientists to write in both English and Latin. In his work "Opticks," the obvious lack of formalized writing of science results is noteworthy. The following is his description of the optics experiment:

> By this way of arguing I invented almost all the Phænomena described in these Books, beside some others less necessary to the Argument; and by the successes I met with in the Trials, I dare promise, that to him who shall argue truly, and then try all things with good Glasses and sufficient Circumspection, the expected Event will not be wanting (Newton 1730, 132).

The trustworthy expert style expected from a scientist or a researcher today was not standardized when English was introduced as a professional discourse, even if we consider language changes over the centuries. The personal interjections, the promises and the narrative flow of a scientific text would not be found today in professional discourse communities.

The gradual standardization has developed with genre conventions for different media and situational uses combined with the discourse of the domain in question. "Opticks", by the way, contains page-long definitions for precision and clarity purposes (Newton 1704, 1-20). Today, most of this work would be found in industry standards and would be explained and exemplified in lexicographic encyclopedia. This is where professional linguistics has its contributory force: the world is defined, logic is put into place, ready to be used for the next scientific project. Genre and domain specifications add edges to the puzzle, and IT technology paves the way for both general and proprietary realizations. Genre content management, for instance IMRAD (introduction-method-research-and-documentation) for science documentation, is one among many writing and organizational systems in use (Sollaci 2004).

New trends

Over the years, specialized linguistics has incorporated ever more theoretical and methodological aspects from adjacent areas. It now draws on cognitive linguistics, socio-linguistics, pragmatism and textual linguistics, to just mention some.

Computer science has indeed renewed the study of LSP. The transition from the classical paper-and-pencil studies to e-tool analysis has given rise to important shifts within the different subfields of LSP research. The corpus-linguistic method, i.e. the compilation of electronic text corpora and subsequent software processing, has meant a huge step forward in terms of identification, documentation, efficiency and new approaches to a number of LSP studies.

The corpora used are generally either parallel corpora, which consist of basic core texts within a domain and their equivalents in other languages; or comparable corpora, which consist of domain-specific texts, typically retrieved via key search words in different languages and systems. A newcomer is the ad-hoc corpus, which is apt for use in specialized contexts, i.e. small, domain-specific corpora, which are collected on-the-fly and serve a particular purpose, for instance defining new terminology in a domain, finding specific traits within a certain genre, or looking at the keyness of certain phrases in a given context, or finding thematic issues—or something entirely different, depending on the situation.

Both terminology, lexicography and textual linguistics benefit from the corpus-linguistic method.

Within terminology, corpus-linguistics in the form of the combination of electronic text corpora and analytical tools are now prevailing. The quick retrieval of keywords from a specialized corpus as well as the representative amount of raw data in the corpus entail a shift of paradigm in terms of time and quality. A recent example comes from Kast-Aigner who has used a parallel corpus of EU texts to identify specialized terminology and to show how word clusters are used to classify domain-specific issues in the EU (Kast-Aigner 2009, 139-151).

Using a domain-specific, comparable corpus of life-science-related texts, Temmerman has bridged terminology and socio-specialized linguistics, thus creating an internal linguistic crossfield within LSP to make templates to expand the definitions with user-relevant information and make them more understandable for non-experts (Temmerman 2000). Along similar lines, Faber has combined electronic corpus analysis with the theory of frames by using concordance lines in a coastal engineering text corpus to observe the combination of the keywords and roles (agent, process, instrument, patient) of the collocates. The results include frames or schemata as

mental representations of the field—a renewal of the classic tree-diagram of terms (Faber 2009).

Over the years, specialized lexicography has focused increasingly on the theoretical and practical development of high-quality online dictionaries. Laursen and Duvå discuss the design of an optimal solution including new information categories for online dictionaries to target translators (Laursen and Duvå 2005). Nielsen focuses on the multitude of combinatorial choices of informational categories that online environments facilitate. He has used this knowledge to make an online dictionary of accounting. Where the work with specialized lexicography has been informative in its nature, focus has now moved to a "functional focus [that] may better help users achieve their intended goals." (Nielsen 2002; Nielsen 2015).

At the textual level, corpus linguistics offers advantages when it comes to identifying and comparing the text-constituting elements in different domains or genres. As examples, Laursen et al. have used multilingual ad-hoc corpora to determine domain-specific SEO terminology in English, Spanish and Danish, revealing a cross-linguistic difference in the use of code-glossing—defined as meta-discursive elements used to reformulate and exemplify the meaning of new concepts (Hyland 2007)—as a means to guide the reader in new domains (Laursen et al. 2014). Mousten et al. have tracked the use of financial language Anglicisms in genre-compiled ad-hoc corpora of stock blogs and stock analyses in Spanish and Danish (Mousten and Laursen 2015), and Corpas Pastor and Seghiri have extracted special English and Spanish discourse features in bilingual corpora of travel insurance documents (Corpas Pastor and Seghiri 2009).

Conclusion

Language for specialized purposes has developed essential preconditions for all other sciences to explore, develop and communicate their fields. We have focused on the specialized language fields of terminology, lexicography and textual linguistics, both with their classical contributions, their cross-disciplinary contributions, and more recent contributions through the use of electronic systems. We have argued that for instance specialized language research is derivative in its use of the raw material, methodology and theories based on the findings from other research fields. We have also ar-

gued that specialized language fields are contributory in their cooperation with and contributions to other research fields and trade and industry professions, both in the form of outputs ranging from raw terminology databases over retrieval methods for different work processes to the more advanced forms of research communication. With the increasing requirements for precise communication to get a break-through of essential research results as well as efficient hands-on trade-and-industry communication, specialized language knowledge with its adjacent research fields is a prime parameter of efficient communication. In other words, LSP research, LSP studies and LSP teaching are important alter egos in the social acts of research and business.

References

Benítez, Andrades, José Alberto. 2010. "Resumen Tema 2: Crawling." Accessed 9 May, 2016. www.jabenitez.com.

Biber, Douglas. 2006. *University language: A corpus-based study of spoken and written registers*. Vol. 23. Amsterdam: John Benjamins Publishing.

Corpas Pastor, Gloria and Míriam Seghiri. 2009. "Virtual corpora as documentation resources: Translating travel insurance documents." In *Corpus Use and Translating: Corpus use for learning to translate and learning corpus use to translate*, edited by Allison Beeby, Patricia Inés Rodríguez, and Pilar Sánchez-Gijón, 75-108. Vol. 82. Amsterdam/Philadelphia: John Benjamins Publishing.

Dragsted, Barbara, and Kristian Hvelplund. 2015. "Et indblik i processen bag oversættelse af skønlitteratur og faglitteratur." *Babelfisken.* 7. september. Accessed 16 June, 2016. Babelfisken.wordpress.com.

Engberg, Jan. 2002. "Legal meaning assumptions—what are the consequences for legal interpretation and legal translation?" *International Journal for the Semiotics of Law* 15.4: 375-388.

Faber, Benítez Pamela. 2009. "The cognitive shift in terminology and specialized translation." *MonTI.* núm. 1: 107-134.

Fischer, Márta. 2010. "Language (Policy), translation and terminology in the European Union." In *Terminology in Everyday Life*, edited by Marcel Thelen, and Frieda Steurs, 21-33. Amsterdam/Philadelphia: John Benjamins Publishing Company.

Freixa, Judit. 2006. "Causes of denominative variation in terminology: A typology proposal." *Terminology* 12.1: 51-77.

Halliday, Michael, and Ruqaiya Hasan. 1976. *Cohesion in spoken and written English*. London: Longman.

Humbley, John. 1997. "Is terminology specialized lexicography? The experience of French-speaking countries." *Hermes. Journal of Linguistics* 18:13-31.

Hummel, Martin. 2009. "Semantics, terminology, and the impact of history and culture on socioeconomic terms." *Fachsprache* 3-4: 109-125.

Hyland, Ken. 2007. "Applying a gloss: Exemplifying and reformulating in academic discourse." *Applied Linguistics* 28.2: 266-285.

IATE, InterActive Terminology for Europe, the European Union's term base. Accessed 16 June, 2016. iate.europa.eu.

Jensen, Vigdis, Mousten, Birthe and Anne Lise Laursen. 2012. "Electronic Corpora as Translation Tools: A Solution in Practice." *Communication & Language at Work*, Vol. 1.

Karsch, Barbara Inge. 2006. "Terminology workflow in the localization process." In *Perspectives on Localization*, edited by Keiran J. Dunne Amsterdam/Philadelphia: John Benjamins Publishing Company: 173-194.

Kast-Aigner, Judith. 2009. "Terms in context: A corpus-based analysis of the terminology of the European Union's development cooperation policy." *Fachsprache* 31.3: 139-152.

Kockaert, Hendrik J., and Frieda Steurs. 2015. *Handbook of Terminology*. Amsterdam/Philadelphia: John Benjamins Publishing Company." Vol. 1.

Laursen, Anne Lise, Mousten, Birthe, Kampf, Constance, and Vigdis Jensen. 2014. "Using an AD-HOC Corpus to Write About Emerging Technologies for Technical Writing and Translation: The Case of Search Engine Optimization." *IEEE Transactions on Professional Communication.* Vol. 57, 1: 56-74.

Laursen, Anne Lise, and Grete Duvå. 2005. "Cyberlexicography in LSP: New aspects of components and structures in the dictionary." *Lexicographica Series Maior*: 337-350.

Mousten, Birthe, and Anne Lise Laursen. 2015. "Tracking Anglicisms in Domains by the Corpus-Linguistic Method." *IEEE International Professional Communication Conference (IPCC). IEEE*: 1-7.

Newton, Isaac. MDCCXXX. *Opticks: Or, a Treatise of the Reflexions, Refractions, Inflexions and Colours of Light.* 4th ed. Printed for WILLIAM INNYS AT THE WEST-END OF ST. PAUL'S. Accessed 22 June, 2016. www.gutenberg.org.

Nielsen, Sandro. 2002. "Overvejelser angående det leksikografiske grundlag for en elektronisk bilingval regnskabsordbog." *LexicoNordica 9.9: 173-194.*

Nielsen, Sandro. 2015. "Bilingual Dictionaries for Communication in the Domain of Economics: Function-Based Translation Dictionaries." *HERMES-Journal of Language and Communication in Business* 27.54: 161-176.

Nistrup Madsen, Bodil. 1999. *Terminologi—principper og metoder.* København: Gads Forlag.

Picht, Heribert (1998): „Wirtschaftslinguistik: ein historischer Überblick." In Fachsprachen. Ein internationales Handbuch zur Fachsprachenforschung und Terminologiewissenschaft. Edited by Lothar Hoffmann, Hartwig Kalverkämper und Herbert Ernst, 336–341. Berlin/New York: de Gruyter. In Verbindung mit Christian Galinski,Werner Hüllen. 1. Halbband (= Handbücher zur Sprach- und Kommunikationswissenschaft. 14.1).

Scarpa, Federica. 2008. "Closer and closer apart? Specialized translation in a cognitive perspective." In *Translation Studies—Perspectives on an Emerging Discipline, 133-149 edited by* Alessandra Riccardi, , 133-149. Cambridge/New York: Cambridge University Press.

Sollaci, Luciana B., and Mauricio G. Pereira. 2004. "The introduction, methods, results, and discussion (IMRAD) structure: a fifty-year survey". *Journal of the Medical Library Association.* 92(3): 364-371.

Swales, John. 1990. *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.

Temmerman, Rita. 2000. *Towards New Ways of Terminology Description. The Sociocognitive Approach.* Amsterdam/Philadelphia: John Benjamins Publishing Company.

Vinay, Jean-Paul and Jean Darbelnet. 1958/2000. "A methodology for translation." In *The Translation Studies Reader*. edited by Lawrence Venuti, 84-93. London/New York: Routledge: 84-93.

Wales, Katie. 2001. *A Dictionary of Stylistics.* London, New York: Longman.

Wittgenstein, Ludwig. 1922. *Tractatus Logico-Philosophicus.* London: Kegan Paul, Trench, Trubner & Co., Ltd.; New York: Harcourt, Brace & Company, Inc. Accessed 27 January, 2016. www.gutenberg.org.

New encounters between arts and research

Karl Erik Schøllhammer

Obel Guest Professor at CGS/AAU and holds a Ph.D. in Semiotics and Latin American Literature from the Aarhus University (Denmark). Since 1991 he is associate professor and Chair of Department of Language and Literature at the Pontifície Universidade Católica in Rio de Janeiro, where he teaches comparative literature, Brazilian literature and literary theory.

Abstract

Discussing the work of artists like Patrício Guzman, Rosângela Rennó and Teresa Margolles this article addresses the challenges that contemporary history poses for Latin and Central American artists who articulate their engagement by means of experimental expressive specificity. An attempt will be made to redefine the borders between critical research and artistic creation and realization within the proposal of a forensic aesthetics. The article will discuss how a commitment to social and cultural content amplifies the reach of scientific engagement and stimulates its search for a performative impact through enhanced visualization and sensible materiality.

Keywords Science in arts; Forensic paradigm; Post-traumatic perspective; Latin American Art; Contemporary Arts.

In the 2010 documentary – *La Nostalgia de la Luz* (Nostalgia for the Light) – Chilean filmmaker Patricio Guzman tells the story of the mothers, sisters and daughters of political opponents who went missing during Pinochet's political dictatorship. In the middle of the Atacama desert, famously known as the driest place on the earth

and one of the main sites for astronomical observation, these women wander around, still looking for the remains of missing relatives dumped there by the dictatorship. One astronomer expresses the analogy between their cosmological search in the attempt to understand the creation of the universe and the forensic desire for the remains of history:

> I always observe in my public speaks that I am going to tell people the story of how the calcium of their bones were made. It is the story of the beginning of us, the calcium of my bones were made just after the Big Bang, some of the atoms were there; we live among the trees and we live among the stars, we live along the galaxies, we are a part of the universe. The calcium of my bones was a part of the beginning (Guzman 2010)

It is hard here not to recall Walter Benjamin's considerations, from his book on the German *Trauerspiel,* about allegory as the *Facies Hippocratica* of history now observed as a corpse, as the deadmask of a petrified primordial landscape that is able to tell two stories at once: one about the beginning of everything and another about violence and politics in recent history. It invites an investigation of the death mask of history that might suggest a new beginning, rediscovered in what the remains from the past can tell us. As showed by Susan Buck-Morss (1989), Benjamin distinguished between the "historical nature" expressed in the ruin and the allegory, and tied to a somewhat mythic vision of nature, from the "natural history", expressed in the fossil and the trace in which the petrified nature and life, becomes historical. This idea of a natural history offers a vision of history where the cultural fragments appears as traces of a petrified nature in a phantasmagoric way. The natural historical approach is thus a critical allusion to modernity as "prehistoric, not yet historical in a truly human sense" (1989, 160). But it was also here, in the commodity as reified fetish that Benjamin would see a liberating potential that could be brought back to life by collective political action or by artistic and expressive techniques of montage.

This article will examine a few Latin American artists who have developed in their aesthetic strategies an exposure of the past in its material remains using different scientific techniques to highlight

these objects as if they were traces in a forensic investigation. These artists are committed to presenting the results in a way that will enhance the visibility of knowledge in a broader dimension of representation. The aforementioned example of Patricio Guzman's work is a good place to start. His latest documentary *El Botón de Nácar* is the second installment, following *La Nostalgia de la Luz* in a trilogy on Chile and it examines the relationship between these historical events and the sea. Whereas *La Nostalgia de la Luz* focused on a story about the Atacama desert, its pre-Columbian population, and the military dictatorship embedded in this geographical landscape, *Botón de Nácar* tells the tale of the original population of Patagonia, their violent extermination, and the political prisoners thrown into the Pacific Sea to disappear.

So how is it possible that nature – the desert and the sea – can allegorize, in the sense employed by Benjamin, the human history of Chile? What is the critical achievement of an aesthetic composition in which dramatic and violent historical events, some of them very recent, are seen in parallel to nature as a petrified landscape? In Benjamin's view, allegory as a material object offers mourning through a specific melancholic contemplation, and at the same time, it points to the origin and eludes the potential of a new beginning. This double sidedness of allegory in art and literature is made of time, it is a spatial expression of a dynamic temporal structure which failure is found embedded in the harsh materiality of history as petrified landscape. It is this dynamic structure that will be discussed as a dimension in which certain artists open up the perspective for a critical articulation of academic practice as a performative part of the representation and exhibition of results.

The Universal Archive

Brazilian visual artist Rosângela Rennó has worked with photography her entire career, always from an archival perspective. She prefers to collect photos taken by others and then rework them – amplifying, editing, exposing, exhibiting – often in contrast to citations, texts, or fragments, gathered from newspapers, books, and other sources. During the 1990s different projects were assembled by the artist within the scope of the *Universal Archive*, an archive of archives, a sort of genealogical historical approach to photography as a document of modern media and culture. One project in particular

is worth mentioning in the present perspective: it started as a research in the photographic archive of the *Penitentiary Academy of the State of São Paulo*, where the artist managed to investigate 15.000 glass negatives of black-and-white ID photos of inmates from the first couple of decades of the São Paulo prison history, mainly from the infamous *Casa de Detenção de São Paulo*, built in the 1920s and later known as *Carandiru Jail,* due to its location in the neighborhood of the same name. Rosângela Rennó discovered a collection of over 3.000 negatives of photographs taken with the sole purpose of registering scars, tattoos, and marks caused by diseases on the bodies of inmates, and another series exclusively dedicated to hair-whirls. In the beginning, no one was allowed to touch this now anonymous material, almost completely ignored and in very poor condition. Later it was discovered that some photos had already been published in a scientific treatise on criminology. This made it possible for Rennó to make a deal with the museum, giving her permission to recover, restore and organize the negatives together with FU-NARTE, the São Paulo Foundation for the Arts, the University of São Paulo (USP), and the Association of Brazilian Archivists under the condition that the *Academy* would allow her to exhibit the negatives in large amplifications while respecting the anonymity of these inmates. The result was two exhibits, one named *Cicatrizes*, from 1997, and the other *Vulgo*, from 1998, both with a small number of photos in laminated digital prints on black mirrors and large sizes (165X118cm), accompanied by fragments of texts selected from Rennó's collection of clippings gathered from popular newspapers and magazines. These texts talk in a colloquial discourse about images, the disciplinary condition of people, the everyday life, and the passions and tragedies that eventually lie behind these human stories. Rennó's project is not just another critical exposure of the historical alliance between photography and phrenology and similar disciplinary and biopolitical practices; the timing is to be understood as part of the many diversified reactions to a massacre that took place in *Carandiru* during a prison rebellion in October of 1992. A fight broke out after a soccer match and GATE, a special police force under the command of Colonel Ubiratan Guimarães, was called and direct authorization was given by the Governor of São Paulo to enter the prison and control the situation. The result was a bloodbath that caused the death of 111 inmates, many of them shot at close range in

the back while lying in bed. Initially, an inquiry absolved the police of any responsibility, and the officers and soldiers involved were convicted only twenty years after the massacre. In 2002, the prison was imploded, but by then it had already become a symbol through a broad specter of artistic expressions that spans from rap music to literature to film, documentaries, theatre, and other visual and performative arts. It is clear that Rennó works stimulated by what Hal Foster would call an archival impulse (Foster 2010, 3-22), which deals with issues of memory and recollection through the scraps of history that until recently were not part of what was considered relevant or interesting from a museological point of view. Lots of artists have contributed to the increasing interest in this material culture that has been part of the presence of the past in our society. It is also obvious that this specific photographic material is part of a rewriting of modern institutional history that started with Michel Foucault's 1960s groundbreaking studies of disciplinary techniques in modernity. In these images, a clear but silent resistance against the condition of exclusion becomes visible by the exposure of the repressed body stigmatized by disciplinary techniques, such as the writing, in scars and tattoos. It was, however, essential for the success of this project that Rennó managed to collaborate with public and independent institutions, and the way she projected this collective dimension, as well as the combination of art and research and her personal political engagement becomes, in my view, the aesthetic achievement of her work, far beyond its specific content and the success of its exposure. What should be stressed is the way in which she brings material findings into a public forum, visually presenting individual stories and their underlying tragedies in a way that gains universality while simultaneously highlighting the aesthetic, sensitive and performative specificity of the photograph as a material object, renewing the critical edge of the artistic engagement in human right issues.

A forensic paradigm to cultural analysis

From the aforementioned examples it should be noted how insistently violence appears as the underlying substrate to contemporary history. Political violence, repressive and institutional violence, and in a wider perspective also war and criminal, organized or individual violence. We are dealing with a vision and experience of his-

tory often inseparable from the reality of violence. History has become a sort of traumatic and post-traumatic condition that imposes a new epistemology and aesthetics of historical investigation relevant to our present discussion. I refer to what has been called the advent of a forensic paradigm (Keenan and Weizman, 2012), appearing in a distance to the 'era of the witness,' and to the primacy accorded to trauma and memory. Following the argument made by Eyal Weizman and Thomas Keenan, the forensic epistemology is to be understood as a shift from the focus on subjective testimony, memory and trauma to an emergence of the 'thing,' often human remains, as a new form of evidence and juridical fact that appeals to a scientific exposure to be put into discourse. In their book on the discovery of the remains of escaped Nazi doctor Joseph Mengele in the state of São Paulo, Brazil, in 1985, Weizman and Keenan show how the forensic identification of Mengele's identity, through a revolutionary technique of video exposure that was able to reconstruct his former physical features from his skull and bones, would introduce a new legal and also epistemological paradigm recognized as a means to provide positive evidence of his identity and cause of death. If the Nuremberg process in the aftermath of the Second World War had been based only on *documental* facts and the Eichmann trial in the 60s introduced the *testimonial witness* as the subjective anchor for the juridical process, the reconstruction of Mengele's identity paved the way for a contemporary paradigm of the *forensic evidence* characterized by the way in which object remains can be revealed through a rhetorical exposure by scientists. If witnesses were characterized by traumatic marks in their subjective testimony, forensic evidence is an object in need to be put into words by experts. As such, it inaugurates a new cultural sensibility with political, aesthetical and ethical consequences in the significance of objects, especially human remains, bones, or vestiges able to 'speak' out on what actually happened and to whom. Forensics identify a new condition by which objects become visible and audible as evidence and underline the way in which the juridical fact is constructed and understood. In a forensic sensibility the scope has, in other words, become object-oriented, as part of a 'juridical culture immersed in matter and materialities, in code and form, and in the presentation of scientific investigations by experts.' (Weizman, 2014, 6) As it becomes clear, the forensic epistemology is part of

what has been, on one hand, called the "object turn" (Latour, 2005) as far as it focuses on the materiality found in the *field*; on the other hand the forensic aesthetics refers etymologically to the *forum*, the place for public explanations of material findings. Instead of testimony that privileges the witness experience of the facts, the forensic approach seeks "to make the object speak" as evidence. Obviously, objects cannot speak and the challenge to forensic aesthetics relies exactly in imagining the pertinence of the ancient rhetorical technique of *prosopopoeia* – a figure of speech defined as "personifying a person or object when **communicating** to an **audience**" – i.e., speaking on behalf of inanimate objects using contemporary techniques of mapping, diagramming, projections, visualizing, knowledge design, digital exposure, experimental teaching, beautiful data, etc. It is through this focus that the humanities - but also the social and natural sciences - can learn from artistic practice, translating their investigative findings into collaborative and interactive designs. Eyal Weizman explains: "Forensic Aesthetics is the mode of appearance of things in forums – the gesture, techniques, and technologies of demonstration; methods of theatricality, narrative and dramatization; image enhancement and technologies of projection; the creation and demolition of reputation, credibility, and competence." (Weizman 2012, 10)

A post-traumatic perspective on contemporary history

It could be argued that the importance of this episode is overrated by Weizman and Keenan. Nevertheless, it should be noted how the identification of Mengele's corpse in Brazil, by Clyde Snow and his international expert team, had an important precedent one year earlier, in 1984, when Snow visited Argentina, invited by the National Comission of the Disappeared (CONADEP). Together with a delegation of forensic scientists, Snow started an important collaboration with the Equipo Argentino de Antropologia Forense, gathering evidence for the trial initiated in 1985 against military junta members. Since then, exhumations of clandestine graves in Argentina, Guatemala, Chile, Brazil, and Colombia have become an important tool for local movements in defense of human rights and as evidence in the prosecution of those responsible for these crimes. In a global perspective, the Forensic Architecture project at Goldsmith has shown ample diversity in subject themes and investigative

methodologies that can be consulted in the volume edited for the exhibition *Haus der Kulturen der Welt,* organized in Berlin, in 2014, with almost 800 pages of research results on armed conflicts, mass graves in Guatemala and Bosnia, ecological disasters, pollution and poisoning, political crimes, drone attacks, climate issues, trafficking of refugees, and many other political subject matters. Looking at the former and ongoing investigations by Israeli architect Eyal Weizman in the field of architecture, in which he submitted the destruction strategies by Israel in the occupied territory of Gaza to a study of the construction of ruins (Weizman 2007), the *Forensic Architecture* approach shows how military violence, or "the economy of violence intersects with the science of engineering and the shaping of ruins" (Weizman 2012, 13) and becomes an "archeology of the very recent past," but also "a form of assembling for the future…inventing and constructing the forums yet to come." (Weizman 2012, 11)

In 1990, Mexican visual artist Teresa Margolles founded the art collective SEMEFO, an acronym for Servicio Médico Forense (Forensic Medical Service), destined to work with issues and materials from dead bodies and crime scenes directly inspired by a forensic approach. Margolles herself is a qualified forensic technician who worked in the mortuary of the City of Mexico. During the 1990s she created a long series of works based on the matter of death and decomposing bodies, organic materials, blood stains, body remains, and fluids, through the exposure of bloody hospital sheets, blankets used to wrap bodies in the morgue, body prints, masks, and clothes worn by murder victims at their moment of death (*Estúdio de la ropa del cadaver*/Study of the corpse's clothes, 1997). The main objective of these works is not only a critical exposure of the increasing violence and organized drug-related crime in big Mexican cities that victimize less-privileged groups of society, as well as the posthumous condition of the body, often tied up in economical and legal demands that determine the final destiny of the corpse. In 2005, Margolles travelled to the Mexican border and spent time working in the outskirts of the City of Juarez and Chihuahua, exploring the crime scenes of the murders and disappearances of the hundreds of innocent girls and young women that have taken place since the 1990s and have never been clearly explained. Most are victims of sexual violence and many are targeted while crossing the borders or searching for work at the *maquiladores*, assembly factories that

exploit the extremely low wages on the Mexican side of the border. Other circumstances such as drug trafficking, prostitution and the illegal smuggling of immigrants are probably part of the whole picture, but the final result is a massive number of killings with a very low or even inexistent prosecution of the perpetrators. Margolles drove around in her van and often spent the night collecting earth and sand from crime scenes or places where the bodies of sexually abused women were found. Out of this material, she would handmake adobe bricks that could be exhibited in different ways, as a brick wall, for instance, supposedly containing forensic material. (*Lote Bravo*, 2007) Together with the exhibition of the sand blocks, printed facts on the killings are presented accompanied by a video of a car traveling on the roads in the area where Margolles made her study of the case. What should be noted in Margolles' work is the way she reshapes the material residues related to the crimes - not only for the purpose of explaining the underlying facts and reasons presented simultaneously in the text accompanying the works - but also as different objects interpreting the geopolitical, juridical and economical reasons behind these crimes, while offering her personal material expression of mourning. The handmade blocks of sand and adobe carry the remains of the crimes, but at the same time, they can build a wall and become an allegory for the border issue between the USA and Mexico and, eventually, a site for mourning. In her work *Línea Fronteriza* (Border Line 2005), a series of black-and-white photographs, framing the stitches used to sew a corpse after an autopsy, becomes a human expression of the limit between the living and the dead, a frontier that for many of these victims, chosen from morgues in the Northern states of Mexico, is concretely enacted by the effective political borders. Margolles brings crime and death close to the visitors. It is literally present in her work when she exposes *Pinturas de Sangre* (Blood Painting 2009), a series of canvases dripped in blood. You would not know this if she did not say it, and it is not the shocking repetition of trauma that has her interest. She reminds us of the presence of violence and the proximity of death in the day-to-day life in Mexico, creating a sensible expression that recollects the memory of this brutal reality in its primary materiality (body tissue, fluids, blood). So when Margolles, during the Venice Biennial in 2009, washed the floor of the Mexican pavilion every day in a mixture of blood, remains of murder

victims, and water, it was obviously a provocation, but also a reminder of the silence that surrounds the escalating numbers of violent killings every year and that affects everyone. So the title *What else could we talk about?*, (*De qué otra cosa podríamos hablar?* 2009) was explained by this ethical urgency. This social and ethical urgency mobilize the artistic intervention and makes explicit the relationship between forensics and the forum. The presentation and articulation of findings are just as important as the discovery of truths and inseparable from them. The forensic aspect stresses the scientific commitment to the material findings and at the same time challenges the existing forums and invites to the creative elaboration of new strategies of presentation in forums between art and science.

Final remarks

The question here is not what today defines a work of art as "Art" rather should it be phrased with the Nelson Goodman's famous words "When is Art" (Goodman 1978, 56-70). A work or an object can function as art in certain occasions and in others as e.g. a sample in a scientific research. The parallels between the practices of some contemporary artists and the critical challenges to research in the humanities and social sciences are manifest. Both are engaged in an object-focused approach to recent political and social history and stress a common valorization of participative authorship, performative interaction, and explorative and affective engagement. The artists discussed here enhance the expressive possibilities in works that target the material remains of history, and frequently these expressive experiments are conditioned by the links between aesthetics, political, and ethical responsibility. Researchers within the humanities and the social science adapt new technologies to access their fields of research in ways committed from the start to exploration and exposition of results as critically informed and to their rhetorical and aesthetic effects in a forum affected by their subject issue.

It is the impression that the insistence on the ethical issue as the center of aesthetic experience represents today the essential transforming element of the work of art, aiming at the creation of new inter-subjective relations in a context in which it is given as a pure event without representing any occult substance in terms of metaphysical moral values, and without restraining itself to the narrow scope of existential experience.

One might ask whether this choice of artistic responses to the social conditions in contemporary Latin and Central America will actually represent a significant current in future productions. Perhaps we are not talking about a representative set of works from a mainstream perspective. Rather, as I see it, we are looking upon a certain transformation in the ways of conception, production and reception of arts and research, whose importance cannot be measured by an isolated critique of a single work. Perhaps we are dealing with the emergence of different ways of knowledge production and their corresponding forms of visibility, often involving participatory investigation and performative realization, frequently committed to a specific communitarian and institutional context with extended social and educational consequences.

References

Buck-Morss, Susan. 1989. *The dialectics of seeing – Walter Benjamin and the Arcades Project.* London, Cambridge: MIT Press

Foster, Hal. *"An archival Impulse." October. Fall 2004, No. 110, 3-22.*

Franke, Anselm & Eyal Weizman. 2014. *Forensis - The Architecture of Public Truth*. Edited by Forensic Architecture. Berlin & Frankfurt A.M.: Sternberg Press

Goodman, Nelson. 1978. *Ways of Worldmaking.* New York: Hackett Publishing Company

Guzmán, Patricio. 2010. *La Nostalgia de la Luz.* France, Chile, Germany: Atacama Filmes

Keenan, Thomas & Eyal Weizman, 2012. *Mengele's Skull – The Advent of a Forensic* Aesthetics. Berlin & Frankfurt A.M.: Sternberg Press/Portikus

Latour, Bruno. 2005. "From Realpolitik to Dingpolitik – or How to Make Things Public." In *Making Things Public: Atmospheres of Democracy,* Cambridge: MIT Press. http://www.bruno- latour.fr/sites/default/files/downloads/96-MTP-DING.pdf (accessed January 26, 2016).

Weizman, Eyal. 2007. *Hollow Land: Israel's Architecture of Occupation.* London: Verso

___. 2012. *Forensic Architecture: Notes from Fields and Forums*, Documenta (13), Ostfilden: HatjeCantz

Studying the Complexity of Craftsmen's Creativity

Calling for a Cross-Disciplinary Research in the Future

Chunfang Zhou

Ph.D., is assistant professor in Department of Learning and Philosophy, Aalborg University, Denmark. Chunfang locates her research in the area of Science, Technology and Society (STS), with a particular focus on creativity study and its relations to group learning, science and engineering education, organizational innovation, Problem-Based Learning (PBL), engineering and technology design, and Information Communication Technology (ICT).

Lene Tanggaard Pedersen

is professor at the Department of Communication and Psychology, Aalborg University, Denmark and co-director (with Vlad Glaveanu) of the International Centre for the Cultural Psychology of Creativity (ICCPC) and co-director (with Svend Brinkmann) of the Center for Qualitative Studies. She has held visiting positions at Berkeley and the University of Technology, Sydney. Her research focuses on the situational and contextual dimensions of creativity vis-à-vis real-life problems.

Hui Zhang

is a Ph.D. candidate in Center for Studies of Technology and Society at Northeastern University in China. During 2014-2015, She was a visiting Ph.D. student in Department of Communication and Psychology, Aalborg University, Denmark. Hui Zhang focuses her studies on history of science and technology, creativity, craftsman work, and gender issues.

Abstract

Creativity has been given much attention by researchers in various areas, but recent studies lack particular discussions on craftsmen's creativity. This article presents an analysis of craftsmen's creativity as a complex phenomenon that indicates the need for a cross-disciplinary research to enable creativity research to reach

its full potential in the future. We regard craftsmen's creativity as a contextual-based activity, involving a range of socio-material aspects in practice.

This underpins the need for a holistic and cross-disciplinary view of craftsmen's creativity that is built upon a hybrid of insights gained from diverse fields including psychology, cognition, arts, humanities, design, and learning, etc.

Keywords creativity, craftsman, cross-disciplinary research, complexity, systematic approach

A Systematic Approach to Creativity

The concept of creativity has gained more and more importance in recent years. It is typically defined as the ability to produce work that is novel (i.e., original, unexpected), high in quality, and appropriate (i.e., it is useful, meets task constraints) (Beghetto and Kaufman 2007). As creativity has been thought of as a necessary element of innovation (Zhou 2012), numerous managers have argued that enhancing the creative performance of employees is a necessary step if organizations are to achieve competitive advantages (Oldham and Cummings 1996).

The literature has demonstrated many strands of research contributing to our current knowledge of creativity (Unsworth 2001). Creativity research was defined as a field of research in the early 1950s and today it covers a very broad range of research disciplines, with empirical studies in many fields (Sternberg 1999). The diverse perspectives range from cognitive accounts (Mednnick 1962), personality accounts (Barron and Harrington 1981), social psychological accounts (Amabile 1996), to cultural psychological accounts (Tanggaard 2013; 2014). In the early years of creativity research, there was a strong emphasis on inner determinants when it came to describing or explaining creativity (Guilford 1950; Simonton 2013). However, since the 1980s there has been an ever-increasing interest in studying the human capacity for producing new and original ideas and products seen as something taking place within and formed by social contexts. This implies that the environmental aspects contributing to creativity have been studied to a higher degree than before (Ryhammar and Brolin 1999). This emphasizes that creativity does not occur in a vacuum. Accordingly, when we

examine what is defined as a creative person, a creative product, or a creative process, the environmental milieu cannot be ignored (Lubart 1999). Thus, creativity is a context-based and context-informed activity. It cannot be dissociated from its social, cultural, or evolutionary setting (Zhou 2014).

Accordingly, there are calls for a systematic and practice-based approach to creativity indicating the complex nature of creativity. As Mumford, Reiter-Palmon and Redmond (1994) argued, there are a host of variables influencing the nature and ontogeny of the creative act. These variables span a wide range of individual and situational attributes, including knowledge, basic cognitive processes, aptitudes and abilities, personality characteristics, environmental perceptions, environmental structure, cultural characteristics and economic or evaluative considerations. Although there is a relative uncertainty in the essence of creativity itself, one may understand acts of creativity by means of studying the interacting aspects constituting these contexts in social practices (Zhou 2012). In the following, we will attempt to describe basic elements of the creativity involved in crafts. This description will reveal how craftsmen's activities regularly involve creative problem solving, imagination and design-oriented processes and how craftwork is a case illuminating in particular the process of creativity and how creativity can be part of continuing a tradition. These multiple and over-lapping processes indicate the need for a broad range of theoretical concepts and approaches to enable a ongoing analysis of craftsmen's creativity calling for multi-disciplinary perspectives in the future research within this domain.

Complexity of Craftsmen's Creativity

Based on the above-mentioned systemic and practice-based approach to understanding the concept of creativity, the general case of craftsmen's creativity can be seen as an example involving a range of socio-material aspects constituting the process of creativity (Tanggaard 2013). A socio-material perspective underlines that the interplay between actors and artifacts is to be seen as a substantial component of the process of creativity in itself and looking at a craftsperson producing a craft, it is indeed hard to separate people and craft as these seem to define each other. Let's take a deeper look at this process.

Crafting and creative problem-solving

In the book *The Craftsman*, Sennett (2009) argued that craftsmen are creative problem solvers and he describes that "every good craftsman conducts a dialogue between concrete practices and thinking; this dialogue evolves into sustaining habits, and these habits establish a rhythm between problem solving and problem finding" (p. 9). But what characterizes a creative problem-solving situation in practice? Generally, it can be defined as a wondering that takes the concrete form of a question; it can be characterized as the discrepancy between a hypothetical normal condition and a fact that diverges from it; it is a form of appearance of contrasts, conflicts and contradictions (Qvist 2004). Problems can take various forms, such as failure to perform, situations in need of immediate attention or improvement, a need to find better ways to do things, unexplained phenomena or observations, gaps in information and knowledge, decision-making situations, or a need for new designs or innovations. A problem triggers the context for engagement, curiosity, inquiry, and a quest to address a real-world concern. These psychological events, in turn, set in motion certain mental processes and behavioral changes, which includes developing creative ideas (Tan 2009). In this sense, 'creativity' and 'creative problem solving' can be seen as interchangeable terms (Basadur 1994).

Particularly, in the practice of craftwork, Sennett (2009) describes how a good craftsman uses solutions to uncover new territory; problem solving and problem finding are intimately related in this practice. He also describes how the act of 'opening up' is one of the basic abilities of craftsmanship: the capacity to open up a problem draws on intuitive leaps, specifically on the power to draw unlike domains close to one another and to preserve tacit knowledge in the leap between them. "Open up" is intimately linked with "open to," in the sense of being open to doing things differently, to shifting from one sphere of habit to another (Sennett 2009), which stimulates creative thinking. But what does this process of opening up imply in practice?

Imagination and creative problem-solving

In the process of problem finding and problem solving, the skilled practice of a craft and the ability to be open to alternatives involves imagination; every masterful exercise of craft projects involves de-

termined intentionality and an imagined vision of the completed tasks or object at hand (Pallasmaa 2009). As Sennett (2009) argues, all skills, even the most abstracts, begin as bodily practices; while the technical understanding of the skills develops through the powers of imagination. According to Jackson and Shaw (2006), imagination as a thinking process acts as a source of personal inspiration, it stimulates curiosity and motivation, it generates ideas from which creative solutions are selected and facilitates interpretations in situations which cannot be understood by facts or observations alone. Some craftsmen's work also assembles what is often described as a design-oriented activity. As Engeström (2006) has described it, each type of work generates and requires a certain dominant type of knowledge and design. In craft, the worker and the designer are essentially merged into one and the same person, the master craftsman. As quality, and the implied need to take into account the perspectives of users and the qualities of the materiality involved, becomes of crucial importance, designers / craftsmen are increasingly used in assisting with developing projects with their particular insights (Engeström 2006). As developing projects are emergent, it involves craftsmen engaged in complex, unpredictable interactions (Sawyer 2003). In this sense, a craftsman's creative process cannot be exactly repeated by himself or others. It often begins with an attempt to accomplish a task or solve a puzzle. It also often begins with the creative idea that comes to the mind before the product production, but which is also continually worked on as part of the production process (Zhang et al, 2016). But why do we care or dare to describe craftsmen's creativity? One could argue that craftsmen are not truly creative. Let's look at this very typical opposition.

Why do we care about creativity in crafts?

Given a product perspective to creativity, a craftsman does create as part of producing a new kind of artifact (Kronfeldner 2009). However, in ancient times, craftsmen did not care about creativity. In contrast, they focused on how to exactly reproduce the traditional model (Barzun 1989). This understanding involves a very implicit concept of creativity that is still very much alive. The product produced by craftsmen is often seen as primarily the result of the craftsmen's effort to explore the beauty or utility of the material. In other words, the craftsman collaborates with the material at

hand to make a unique product, a process revealing an often not recognized creativity, flourishing on the basis of existing artifacts or revealing something that did not exist before. Nevertheless, a craftsman's products are different from the mass production products, which are extremely homogeneous. So we might assume that craftsmen show more creativity in the uniqueness of creation style than at the creation level. This implies that the combination of creation style and technique level is regarded as the criterion of creation in craftwork. If a craftsman's creative product as a kind of artifact becomes famous and popular, the craftsman takes pride in his feeling of work, which can also encourage the craftsman to make novel and original products sequentially (Zhang et al. 2016).

Craftwork as continuing tradition and caring a mark of one-self

A workshop or studio is often the main working place of a craftsman. Families and relatives engaged in the crafts may influence the next generation to work in the same field, and the pressure for the next generation to continue the tradition may be strong. As Sennett (2009) argued, the instrumental dimensions of a craft can be theorized, researched, taught and incorporated in the practice fairly rationally, whereas the existential dimensions are integrated with one's own self-identity, life experience and ethical sense as well as one's personal sense of mission (Pallasmaa 2009). Therefore, the craft is also based on learned specialized skill, while a skill can be defined as a trained practice. A trained practice is where the craftsman needs to develop specific relationships between thought and thinking, ideas and execution, action and matter, learning and performance, self-identity and work, pride and humility. The craftsman also needs to embody the tool or instrument, internalize the nature of the material, and eventually turn him/herself into his/her own product, either material or immaterial (Pallasmaa 2009). So for the craftsmen, the seamless and unconscious collaboration of the eye, hand and mind is crucial. As the performance is gradually perfected, perception, action of the hand and thought lose their independence and turn into a singular and subliminally coordinated system of reaction and response (Pallasmaa 2009). However, training for a skill implies endless practice and repetition that borders upon boredom. The gradual improvement of performance, combined with dedication, keeps the negative sense of boredom at bay

(Pallasmaa 2009). But the creative ideas often come from destroying existing patterns of thought to produce some creative work. All craftsmanship is quality-driven work that pursues the standard of excellence: the aspiration for quality will drive a craftsman to improve, to get better rather than get by (Sennett 2009). However, craftsmanship is a very fitting case study for how creators and their audiences can hold an ambiguous position towards creativity. Their ambivalence usually steams from an age-old ideal shared by folk artists to achieve the greatest level of mastery in their work while (and often as a result of) eliminating any traces of personal identity from the end-product. Unlike art, a domain that fosters and to a certain extent relies on creative identities, craftsmanship is defined mostly by its anonymity. In craft, it is not the individual creator being foregrounded but, on the contrary, the continuity of a tradition takes centre stage.

The above discussion of the complexities of craftsmen's creativity is also related to the interaction among the craftsmen themselves, relevant field skills and knowledge, problem solving, coordinated working process, a novel and unique product, trained skills, intrinsic pressure, and a supportive environment etc. So creative abilities do not stand in isolation: they have to be blended and connected to other sorts of ability and capacity. As suggested by Sternberg and Lubart (1996), successfully intelligent individuals succeed in part because they achieve a functional balance among a 'triarchy' of abilities: analytical abilities, which are used to analyze, evaluate, judge, compare and contrast; creative abilities, which are used to create, invent, discover and imagine; and practical abilities, which are used to apply, utilize, implement and activate. Undoubtedly, craftsmen are people who are good at blending and utilizing different abilities, knowledge and capacities in order to achieve a goal of creative work.

**Studying Craftsmen's Creativity towards
a more Integrated Cross-Disciplinary
Approach and Significances**
As the above analysis reveals, the process and results of creativity cannot be anchored in any single point of departure. The whole body of the craft person is at work guided by the materials at hand, the situation, the need for producing something of value for custom-

ers and so on. It is indeed a very complex process and such examples show us why we might need a cross-disciplinary approach to the study of creativity. The complexity of the world we study means that it is open to interpretation. The curiosity driving the search for understanding that is simulated by the possibility space afforded by interpretation of what is encountered (Jackson and Shaw 2006). These points drive us to rethink both theoretical and methodological significances of a more integrated cross-disciplinary approach to study craftsman's creativity, as the following lines illustrated.

Respecting diversity of theoretical perspectives

Theoretically, based on a systematic view to creativity studies, we should give enough respect to the diversity of perspectives to cases of craftsmen's creativity. As mentioned above, situating creativity as emerging from within systems involving norms, values and practices implies that it has something to do with "being in a relationship." As Glăveanu (2013) described, the intensely focused thinker is oblivious to the immediate surrounding world because he or she is entrained in the internalized conversations of the network creativity, which is a process of making coalitions in one's mind, and creativity is a dialogical process that occurs within the context of relationship.

But can we also understand creativity in a more holistic, connected, and perhaps even constructive sense of a relationship? It is clear that we should call for a more integrated cross-disciplinary approach to creativity studies, especially in the case of craftsmen's creativity, based on the understanding of complexity and sociomateriality in a trained practice. This move to a more systemic and integrated approach to the study of creativity echoes the call raised in a recent review of creativity studies (Amabile and Hennesey 2010) and the concerns raised among other researchers in the field aiming for a better integration of research perspectives within creativity (Glăveanu 2010; 2014). However, an attempt at integration might be needed in the direction of model unity and coherence as suggested by Glăveanu (2014). On the contrary, we stress the importance of tolerating and respecting the diversity of perspectives and enjoying the fruits of cross-disciplinarily research, not needing to reach any state of unity. In this sense, a way out of the current fragmentation and 'crisis' in the field of research on creativity could be that we respect differences, variations, and instead of coherence

establish meeting places and spots where divergent perspectives can be celebrated.

Underpinning ethnographic and qualitative methods

According to Engeström (2006), there are five ideal types of work in history of industrial production: craft, mass production, process enhancement, mass customization, and co-configuration. Today, compared with other types of work, the influence of interaction between craftsmen and environment is changing slowly. In their workshops, craftsmen communicate with other craftsmen, get the opinions and ideas of others, and interact with the surrounding environment. Even if the greatest genius needs the work environment for encouraging creativity, they will not accomplish anything without the support of society and culture (Zhang et al. 2016). Compared with a picture of the stereotypical worker in the factory, craftsmen work under another kind of pressure to produce and sell their goods; they often need to face all the survival risks by themselves. However, the creative environment of craftsmen involves more freedom than the workers in the factory (Engeström 2006).

As evidenced in the above analysis, we are in need of creativity research that can tell us more about the physicality of the environment and the embodied nature of creative work and that does not place creative work outside the mind, but in between mind and environment, self and other, the psychological and the material. So creativity is socially constructed as dialogic and not as unitary (Zhou 2014). This means relationships between actors, practical context, and their dialogues should be most focused when craftsmen's creativity is investigated. This involves methodologies rooted in diverse theoretical approaches, as mentioned above, for example, phenomenology and hermeneutics (Ricoeur 1975). As Gadamer (2004) emphasized, understanding and interpretation are related to verbal tradition in a specific way. But at the same time, they transcend this relationship not only because all the creations of human culture, including the nonverbal ones, can be understood in this way, but more fundamentally because everything that is intelligible must be accessible to understanding and to interpretation. These points underpin the point that methodologies for investigating creativity have shifted from large-scale studies aiming to measure creativity towards ethnographic, qualitative approaches to re-

search focusing on the actual site of operations and practice, again situating creativity in the specifics of the underlying disciplines, and in the social and cultural values and practices of the particular setting (Zhou 2014).

Overall, this study is an example of a study of creativity in the wild, where the traditional distinction between mind and body and between idea generation and idea implementation becomes not necessary and where cross-disciplinarily approaches come in handy because they leave us with a range of perspectives making it possible to reach a fuller understanding of the complexity of the phenomena at hand.

References

Amabile, Teresa M. 1996. *Creativity in Context: Update to The Social Psychology of Creativity.* Boulder, CO: Westview.

Hennessey, Beth A., and Teresa Amabile. M. 2010. "Creativity". *Annual Review of Psychology*, 61: 569-598.

Barron, Frank, and David M. Harrington. 1981. "Creativity, intelligence and personality". *Annual Review of Psychology*, 32: 439-476.

Barzun, Jacques. 1989. The paradoxes of creativity. *The American Scholar*, 58, 3: 337-351.

Basadur, Min. 1994. "Managing the creative process in organizations". In *Problem Finding, Problem Solving, and Creativity* edited by M. A. Runco, 237-268. New Jersey : Ablex Publishing Coorperation Norwood.

Beghetto, Ronald A. and James C. Kaufman. 2007. "Towards a broader conception of creativity: a case for 'mini-c' creativity". *Psychology of Aesthetics, Creativity and the Arts*, 1, 2: 73-79.

Calvano, Calvano N., and Phillip John. 2004. "System engineering in an age of complexity". *Systems Engineering*, 7, 1: 25-34.

Engeström, Yrjö. 2006. "Activity theory and expansive design". In *Theories and practice of interaction design,* edited by Sebastiano Bagnara and Gillian Crampton Smith, 3-23. Mahwah, NJ: Erlbaum.

Gadamer, Hans-Georg. 2004. *Truth and Method*. Trans. J. Weinsheimer & D. G. Marshall. New York: Contimuum Publishing Group. (Original work published 1960).

Glăveanu, Vlad Petre. 2010. "Paradigms in the study of creativity: Introducing the perspective of cultural psychology". *New Ideas in Psychology*, 28,1: 79-93.

Glăveanu, Vlad Petre. 2013. "Rewriting the language of creativity: the five A's framework". *Review of General Psychology,* 17, 1: 69-81.

Glăveanu, Vlad Petre. 2014. "The psychology of creativity: a critical reading". *Creativity: Theories-Research-Applications* 1, 1: 10-32.

Jackson, Norman and Christine Sinclair. 2006. "Developing students' creativity, searching for an appropriate pedagogy". In *Developing Creativity in Higher Education, An Imaginative Curriculum,* edited by Norman Jackson, Martin Oliver, Malcolm Shaw, and James Wisdom, 118-141. Routledge: London.

Kronfeldner, Maria E. 2009. "Creativity naturalized". *The Philosophical Quarterly*, 59, 237: 577-592.

Lubart, Todd I. 1999. "Creativity across cultures". In *Handbook of Creativity* edited by Robert. J. Sternberg, 339-350. New York: Cambridge University Press.

Mednick, Sarnoff A. 1962. "The associative basis of the creative process". *Psychological Review*, 69: 220232.

Mumford, Michael D., Reiter-Palmon, Roni and Matthew R. Redmond. 1994. "Problem construction and cognition: Applying problem representations in ill-defined domains". In *Problem Finding, Problem Solving, and Creativity* edited by Runco A. Mark, 3-39. Westport, CT, US: Ablex Publishing.

Oldham, Greg R. and Anne Cummings. 1996. Employee creativity: personal and contextual factors at work. *Academy of Management Journal,* 39, 3: 607-634.

Pallasmmaa, Juhani. 2009. *The Thinking Hand*. London: John Wiley & Sons.

Qvist, Palle. 2004. "Defining the problem." In Problem-Based Learning. In *The Aalborg PBL Model: Progress, Diversity and Challenges,* edited by Annette Kolmos, Flemming K. Fink, and Lone Krogh, 77-92. Aalborg: Aalborg University Press.

Rhodes, Mel. 1961. "An analysis of creativity". *The Phi Delta Kappan*, 42, 7: 305-310.

Richards, Greg. 2011. "Creativity and tourism-the state of the art". *Annals of Tourism Research*, 38, 4: 1225-1253.

Ricoeur, Paul. 1975. "Phemenology and Hermeneutics", *No& ucirc*, 9, 1:85-102.

Ryhammar, Lars and Catarina Brolin. 1999. "Creativity research: Historical considerations and main lines of development". *Scandinavian Journal of Educational Research*, 43, 3: 259-273.

Sawyer, Keith. 2003. *Creativity and Development*. Oxford University Press: Oxford.

Sennett, Richard. 2009. *The Craftsman*. Penguin: London.

Scardura, J M. 1977. *Problem Solving: A Structural / Process Approach with Instructional Applications.* New York: Academic Press.

Simonton, Dean Keith. 2013. Creative thought as blind variation and selective retention: why creativity is inversely related to sightedness. *Journal of Theoretical and Philosophical Psychology*, 33, 4: 253-266.

Sternberg, Robert J. 1999. *The Handbook of Creativity*. Cambridge University Press: Cambridge.

Sternberg, Robert J., and Lubart, T. I. 1996. *Defying the Crowd: Cultivating Creativity in a Culture of Conformity*. New York: Free Press.

Tan, Oon Seng 2009. *Problem-Based Learning and Creativity*. Singapore: Cengage Learning Asia Pte Ltd.

Tanggaard, Lene. 2014. "A situated model of creative learning". *European Education Research Journal*. 15, 1: 107-116.

Tanggaard, Lene. 2013. "The socio-materiality of creativity". *Culture and Psychology,* 19, 1: 20-32.

Unsworth, Kerrie L. 2001. "Unpacking creativity". *Academy of Management Review*, 26, 2: 286-297.

Zhang, Hui, Zhou, Chunfang, Tanggaard, Lene and Luo Lingling. 2016. "Understanding craftsman's creativity in a framework of person, process, product and press (4Ps)". In *International Conference on Humanities and Social Science (HSS2016)*: 908-913. Bokförlaget Atlantis.

Zhou, Chunfang. 2012. "Group Creativity Development in Engineering Education in a Problem and Project-Based Learning Environment. PhD diss., Aalborg: AK Print.

Zhou, Chunfang. 2014. Student project as an extra group member: a metaphor for development of creativity in Problem-Based Learning (PBL)". *Akademisk Kvarter,* 09: 4-16.

Humanities and the future notion of societal impact

Bolette Rye Mønsted

is assistant professor at the Institute of Learning and Philosophy, Aalborg University. The research focuses on, among others, organisational and educational development and the challenges and opportunities associated with it.

Abstract

In this article, the author relates various areas such as Higher Education, social media, educational politics, society and humanistic research in regards to comment on the challenges faced by Humanities and its future notion of societal impact. It is argued that in order to identify and understand the future impact of the Humanities, it is necessary to develop a methodologically and theoretically based mapping design in which the complexity of the development can be understood and explored. The article draws upon the PhD thesis *Ad nye veje* (Mønsted 2015) in which a specific study programme in Higher Education in Denmark is explored as an educational example of both the development and future of Humanities and its notion of impact. The specific study programme in question is a humanities-based Higher Educational programme called Humanistic Informatics at Aalborg University. The collective purpose of the article is therefore to look upon the recent development within this specific Higher Educational programme as an important and unique type of humanistic societal impact.

Humanities current challenges – an introduction

Over the years, Humanities and its impact have (if not always) been both governed and challenged by an (un)spoken requirement for the identification of its impact (Collini 2012; Mønsted 2015; Pedersen, Stjernfeldt and Køppe 2015). The notion of impact in relation to Humanities seems inextricably linked to a societally grounded relevancy where humanistic knowledge is sought and challenged in community-oriented practice (Bate 2011). A challenge that, in many ways, breaks with the classic understanding of Humanities as primarily focusing on language and literature - a new Humanities is on the way (Finnemann 2001). In order to identify "the new Humanities" one must look closely to the challenges that seem to be the focal point. In the recently published book *Kampen om disciplinerne* (Pedersen, Stjernfelt and Køppe 2015) it is argued that the Humanities - unlike social and natural science - has a greater challenge in identifying its notion of impact and thus justifying and emphasising its existence (Pedersen, Stjernfelt and Køppe 2015, 9). The pressure on Humanities is both identified and specified as followed:

> (...) today Humanities is an essential challenged research field. For many years Humanities has been a disputed area for both scientific and political struggles. Everyone from Danish Industry to the European Commission have a position on Humanities, but very few have systematically considered the content of the humanistic research field and the characteristics of this scientific approach. (…) The book describes how a new Humanities are emerging (Pedersen, Stjernfelt and Køppe 2015, 9)

The need for identification of what Humanities both can and do is there for vital to the future of the research field. A future which seems to be linked to Humanities' ability to cement its existence in relation to its societal relevancy. In 2011, Humanities' societal relevancy was harshly criticised by Linda Maria Koldau, a professor at Aarhus University, as Koldau directed a sharp criticism of the humanistic Higher Educational programme in Danish universities

(Koldau 2011). According to Koldau, there is a mismatch between what the humanistic curricula claims to educate the students and what the students are actually taught. This mismatch contributes to undermining Humanities' societal impact, as the students do not acquire the necessary skills to guarantee their social relevance and thus meet the labour market's requirements and needs (Koldau 2011). Koldaus' criticism reflects a concern about Humanities' current state and future societal justification – a critique which seems to mark the beginning of a broad debate across the Danish universities in general and Humanities particular (Dahl 2013; Hedetoft 2014; Sørensen 2014). So what holds the future for the Humanities in regards to its educational content and societal relevancy?

According to Pedersen, Stjernfelt and Køppe (2015), the development and dissemination of digital media is to be looked upon as a core element in the understanding of both the challenges and development of Humanities since the 1960s:

> Thus, until recently digital methods only played a small roll in large parts of Humanities, while "Humnities Computering (from 1960s), Library & Information Science Research (from 1970s) and Humanistic Information and Media studies (from 1980s) as well as other more dispersed areas, has been relatively isolated from mainstream Humanities. (Finnemann in Pedersen, Stjernfelt and Køppe, 2015, p.317)

In relation to this article, it is interesting to note that these aspects such as Humanistic Informatics were created in order to accommodate the increased pressure on the classic understanding of a Humanities without technological involvement (Mønsted 2015, 135). For example, the high unemployment among humanities graduates in the 1980s stressed the need and importance for new thinking – then and now (Sørensen 2014; Mønsted 2015, 284). By taking an interdisciplinary approach to understanding interpersonal and organizational communication and technology, makes Humanistic Informatics a historical and current highly relevant Higher Educational programme, as the development seems to revolves around such an approach.

The empirical and methodological foundation

As this article draws upon results from a PhD thesis conducted by the author (Mønsted 2015), in which the author addresses the formation and development of Humanistic Informatics and how the quality of the programme can be optimized, it is necessary to present the empirical and methodological foundation as a conceptual framework for understanding the following perspectives on Humanities societal impact.

The empirical foundation consists of a broad variety of texts: Curricula, censorship annual reports, texts regarding Danish educational policy, the technological and societal development in Denmark and, above all, nine interviews with lecturers and professors (Kvale and Brinkmann 2015) – all linked to Humanistic Informatics (Mønsted 2015, 37-51). The many empirical contributions constitute a whole – a whole where Humanistic Informatics is not seen as a separate element, but is instead understood and looked upon in a larger societal, educational and political context (Clarke 2005, 69). The purpose of collecting a broad and complex empirical data foundation is thus to create a trans-empirical understanding of the humanistic educational development (Clarke 2005).

Methodically, the empirical material thus required a broad methodological design. By extension Clarke (2005) and her methodical approach to work with 'Situational Analysis' was chosen as the methodological tool cabinet (Clarke 2005, xxxiii). With its mapping approach as the guiding analysis element, it becomes possible to embrace greater empirical data volumes while structuring them - a structure which makes it possible to analyse new patterns across the total empirical foundation. Through Clarke's mapping analysis, a narrative discourse understanding (Fairclough 1992) of the Humanities' future impact is created.

Fairclough's 'Orders of discourses' (Fairclough 1992, 237) was used as a discursive framework which allows an in-depth analysis and understanding of the content of the narrative discourse. The results of the in-depth analysis are thus looked upon as 'orders of discourses', all of which relate to the narrative discourse. In addition, Bourdieu is incorporated to provide an explanatory and perspectival sociological perspective to the understanding of the findings (Delica and Mathiesen in Fuglsang 2007, 177-203). In total, the

empirical and methodological foundation represents an overview of the collective structure of the study (Mønsted 2015).

Humanistic Informatics – a Higher Educational programme

In continuation of the above, it is natural to wonder why the focus on a specific Higher Educational programme in relation to 'Humanities and the future notion of impact'. It is therefore essential to remember that Humanities' societal impact is largely centred on and been anchored in the Higher Education programmes at universities, as the candidates facilitate and practice research-based humanistic knowledge through their occupations. It therefore means that, in general, humanistic Higher Educational programmes *are* a way to understand Humanities' societal impact. Thus, Humanistic Informatics is looked upon as both a relevant and timely educational programme for understanding the present and future Humanities.

The basic education programme (leading to a BA) Humanistic Informatics was established in 1985 at Aalborg University Centre. The programme was created as a specific response to the prevailing technology in the early 1980s[1] (Mønsted 2015, 136). The idea was that the presence of humanistic research was crucial to the technological development in order to ensure that, rather than solely focusing on the technical aspects, the technology could and should be user-oriented (Schärfe 2003, 25-34). Instead of having the general technological development as its focus, Humanistic Informatics had the *use* of technology as its primary focus. Consequently, the fusion of technical science and Humanities formed a radically different study programme within the Danish Higher Education sector, where the computer was looked upon as a medium for processing communication as information. In short – the computer as information technology (Schärfe 2003, 30).

In practice, the name of Humanistic Informatics is both a term for a basic educational programme (BA), yet also a common basic for a number of master's degrees. Fig. 1 is an illustration of the structure of the study programme in 2015:
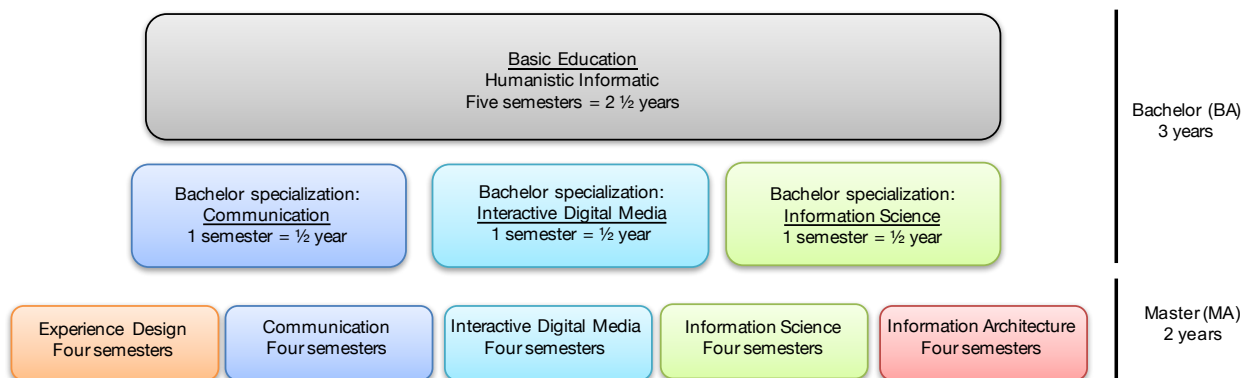
Figure 1: The structure of the study programme of Humanistic Informatica

The common denominator for both the basic education and the specialisation is the development of human and organisational communication and the opportunities and challenges that lie in the use of Information and Communication Technology (ICT). The basic education programme is thus characterised by introducing the students to various aspects of each of the graduate degree programmes. The programme gives the students a common academic and scientific theoretical education, and after the fifth term, they will have the opportunity to specialise and immerse themselves in their favourite academic subjects in the master's degree programmes listed above (Fig. 1). Each of four basic educational programme terms have their own theme: 1st term on communication products, 2nd term on communication processes, 3rd term on communication and strategy, 4th term on communication and the individual, and finally, 5th term on communication design. The students' undergraduate specialisation therefore has a direct impact on which graduate degree programmes they have the option to choose afterwards (Humanistisk Informatik, 2013). These master's programmes are thus designed as specialisations within the common frame of Humanistic Informatics. Historically, the development of the programme has shown that changing societal and technological conditions have a direct impact on the programme as the programme appears to both accommodate and incorporate these changes into the curricula (Mønsted 2015, 121,157-167). The result of the constant adaption, however, has the negative effect that the teachers/researchers perceive the programme as fragmented and in need of consolidation

(Mønsted 2015, 284-286). A consolidation, where Humanistic Informatics is not merely seen as a scientific visionary consideration, but as an actual teaching practice (Mønsted 2015, 285).

Collectively, the structure of Humanistic Informatics is to be looked upon as a way of studying human interaction in relation to technology, media, organisations and society. The development of Humanistic Informatics shows that there is a continuous and mutual influence between the educational and societal development. However, the societal influence seems to have a much clearer impact on Humanistic Informatics than vice versa. It is therefore interesting to take a closer look at the importance of Humanities' societal impact, as it appears to be both subject to considerable internal (within the Humanities) and external (political) attention.

Why focus on 'the notion of impact'?

First and foremost, it is essential to emphasise that Danish Humanities' societal relevance and contribution should not be viewed as an internal (Humanities) but also as an external (social and political expectations) matter. To further lower the artificial importance of such a focus on Humanities' contribution in Denmark, it is interesting to include aspects of the conference on 'Innovation and Creativity in Research and Education within the Humanities' which was held at the University of Copenhagen in 2012. The purpose of the conference was, among others, "to ensure the Humanities' active involvement in the shaping of policies that can solve educational, political and societal challenges" (Mønsted 2015, .204).

At the conference the current Minister for Science, Innovation and Higher Education, Morten Østergaard (R), presented his political views on the topic of the conference, which he described as "exciting and complex" (Østergaard 2012 in Mønsted 2015, 204). The Minister presented a number of divergent perspectives on Humanities' challenges relating to innovation and globalisation, and stressed in this context that for him it was of pivotal importance to maintain a good and close cooperation between companies (public and private) and the university in order to achieve "a targeted innovation" (Østergaard 2012 in Mønsted 2015, 205). The minister thus committed a vision for Humanities, where professional working relationships appear to be the way forward for Humanities, which, according to the minister, will thus be better able to con-

tribute to "creating innovative and workable solutions". The political, asserted the minister was thus a conception of the Humanities as, to a much greater extent than previously, adapting/merging more with the business community in order to promote Humanities' position. For, as the minister put it: "Innovation needs a human touch" (Østergaard 2012 in Mønsted 2015, 205). Specifically, this 'touch' should, according to the minister be achieved through an increasing focus on innovative thinking, as the individual programmes should increasingly teach students, "so that the students are inspired to solve real problems" (Østergaard 2012 in Mønsted 2015, 205). The political contributions can be summed up as a desire for greater business involvement in the Humanities, so that the subject brings an innovative 'human touch'. This touch can be looked upon as emphasising Humanities' existence qua its value for business cooperation. Whether to concur with such an opinion or not is of course an individual matter, but nevertheless it is a key political contribution that have a scope of influence on the future of the Humanities. In relation to this article, it is therefore essential to focus on what the Humanities can specifically contribute (impact) in a societal matter and how this impact could be provided, as the involvement of the business is a policy-based desire and requirement (Mønsted 2015, 229).

Social media in Humanistic Informatics – a humanistic societal contribution

In many ways, the period since 2000 to 2015 has emphasised Humanistic Informatics as a relevant and timely Higher Educational programme but also highlighted its challenges (Mønsted 2015, 285). These are inextricably linked to the programme's ability to train skilled graduates to perform (Humanities) societally relevant jobs. Regarding the programme's "relevance and timeliness," it is interesting to note that these are specifically associated with the technological development, as the relevancy in the 00s is, for example, linked to social media: The creation of Facebook in 2004 was, in general, the beginning of a new a new era of self-performance (Wittkower 2014). This both was and is a new era where the individual presentation of self no longer is a question of online or offline self-performance as the online and offline now represent an overall context. The significance of this development, in relation to the Hu-

manistic Informatics and Humanities in general, is to underline the importance of increasing a humanistic focus on the social media development as the humanistic perspectives, methods and theories are greatly needed in the collective understanding and development of, for example, the interpersonal user aspects in social media.

In relation to Humanistic Informatics, social media is to be looked upon as an object, in which all of the programme's research perspectives (more or less) unite (Mønsted 2015, 202). The educational integration of social media as an object in both education development and in the programme's understanding of itself, is central to the general understanding of the Humanities' present and future (Mønsted 2015, 287). It is central because the programme's humanistic approach to understanding the social media as a humanistic matter highlights that Humanities should not be considered and understood as a separate community element, but rather as an active part of the overall development of society qua the technological development and significance. The humanistic societal contribution is thus in Humanities' ability to offer research-based user-oriented knowledge.

In connection with the above, it is also central to highlight Aalborg University' corporate values for the link between research study and teaching, where its stated that the university provides research-based teaching (Aalborg University 2016). In the understanding of the relationship between research and teaching, it is interesting to bear in mind that the development of social media in relation to humanistic research cemented as well as validated Humanistic Informatics' existence as a programme, because of its integration of research focus in the curricula (Mønsted 2015, 284-286).

As a specific expression of the program's development in the 00s, it is furthermore interesting to highlight the number of accepted students as an expression of the programme's timelessness and relevance (Mønsted 2015, 208). Enrolment of bachelor's students was, in 2000 and until 2006, steadily increasing, starting with 85 students in 2000 up to 97 students in 2006. The year 2007 happens to be one of "explosive" growth with an intake of 174 students, which is almost double compared to the year before (Mønsted 2015, 208). The highest number of bachelor's enrolments was in 2012, where Humanistic Informatics took in 227 students. These 227 students totalled 2.6 times as many as in 2000, which can be described as a marked increase in relatively few years (Mønsted 2015, 208).

Whether social media is a direct cause of the increased number of students cannot be established with certainty. However, a direct parallel between the prevalence of social media in the 00s and the programme's growth can be seen as an expression of just that.

Conclusion

Humanities, as a research field, is facing a number of challenges: Educational policy has, in the last five years, taken a number of decisions, all of which point towards shorter studies, greater involvement of industry in the programmes and the general adjustments of Higher Education in order to accommodate business requirements and demands. These challenges emphasise that, among others, Humanities' future societal impact must be viewed in light of both Higher Educational programmes and in the humanistic research field. The form and content of Humanistic Informatics can thus be viewed as an important contribution to current and future humanistic societal impact, as the Higher Educational programme has a humanistic approach to and integration of interdisciplinary approaches and research material. If anything, the technological development of the last ten years has shown that an interdisciplinary humanistic research approach and understanding of technology is central to the overall technological development, whereby social media can be seen as the cementing expression thereof. Humanities and its future societal impact is not limited to the continued development of social media (far from it) – but they represent a socially relevant element in which humanistic impact and influence can be identified. This approach to Humanities' future impact thus, for example, revolves around user involvement, understanding human-mediated interaction, self-performance and the development of experience design. The technological developments will undoubtedly continue, and thus humanistic contribution to and influence on these developments must be considered of relevance.

Regarding Humanities' challenges, it is clear that the indicated humanistic impact areas are broadly defined and hence difficult to specifically identify. This is due to an overlap between the Humanities and technical science, which requires a much higher degree of complexity in understanding, one where technical science and the Humanities constitute an interdisciplinary-consolidated whole. A whole in which the users of social media are, for example, consid-

ered co-producers and co-designers. Humanities' future notion of societal impact lies (among others) in its ability to proactively develop interdisciplinary methods and research designs in order to provide humanistic research-based knowledge for societal benefits.

References

Bate, Jonathan ed. 2011. *The Public Value of the Humanities.* London: Bloomsbury Academic.

Clarke, Adele E. 2005. *Situational Analysis. Grounded Theory after the Postmodern Turn.* Thousand Oaks: SAGE Publications.

Collini, Stefan. 2012. *What Are Universities For?* London: Clays Ltd, St Ives plc.

Dahl, H. 2013. Dumhedens cirkel. *Weekendavisen*. July 7, 4.

Delica, Kristian and Anders Mathiesen. 2007. Historiserende feltanalyse. In *Teknikker i samfundsvidenskaberne*, edited by Lars Fuglsang, Peter Hagedorn-Rasmussen and Poul Bitch Olsen. Frederiksberg: Roskilde Universitetsforlag

Fairclough, Norman. 1992. *Discourse and Social Change.* Cambridge: Polity Press.

Finnemann, Niels Ole. 2001. *Humaniora ruster sig til det nye årtusinde.* Accessed December 2015. http://www.hum.au.dk/nyheder/arkiv/forskning/humaniora_ruster_sig.htm.

Hedetoft, Ulf Riber. 2014. "HUM: Kritikken af os bygger på myter". *Universitetsavisen.dk February 19.* Accessed June 2016 http://www.universitetsavisen.dk/debat/hum-kritikken-af-os-bygger-pa-myter.

Humanistisk Informatik. 2013. Accessed February 2013: www.huminf.aau.dk.

Koldau, Linda Maria. 2011. *Professor: Dansk humaniora er en skandale.* Accessed June 2016 http://politiken.dk/debat/ECE1306556/professor-dansk-humaniora-er-en-skandale/.

Kvale, Steiner and Brinkmann Svend. 2015. *Interview – Det kvalitative forskningsinterview som håndværk.* København: Hans Reitzel.

Mønsted, Bolette Rye. 2015. *Ad nye veje*, Aalborg: Aalborg Universitetsforlag.

Pedersen, David Budtz, Stjernfelt, Frederik and Køppe, Simon eds. 2015. *Kampen om disciplinerne. Viden og videnskabelighed i humanistisk forskning.* The Authors and Hans Reitzels Forlag.

Schärfe, Henrik Ed. 2003. *Impact – In memoriam Inger Lytje*: Aalborg University Press

Sørensen, Peter Birch. 2014. "Med færre humanister ville vi få råd til bedre uddannelse". *Information* February 16. Accessed June 2016 http://www.information.dk/488159.

Wittkower, D. E. 2014. "Facebook and dramauthentic identity: A post-Goffmanian theory of identity performance on SNS". *First Monday*; Volume 19, Number 4-7, April 2014.

Aalborg University. 2016. Accessed June 2016 http://www.lovgns.aau.dk/Værdigrundlag+og+pædagogisk+udgangspunkt/Værdigrundlag+for+AAU/.

Notes

1 In 2015 the programme changed its name to Communication and Digital Media.

Students' pondering

An educational challenge to the arts and humanities in a market-oriented education system

Frederikke Winther

Assistant Professor, PhD, Department of Communication and Psychology at Aalborg University, Copenhagen. Frederikke research and teach within the areas of professional, interpersonal communication and the didactics of problem based learning.

Thomas Duus Henriksen

Associate Professor in internal communication and organizational processes, Department of Communication and Psychology at Aalborg University, Copenhagen. Thomas has a background in business psychology (M.Sc. Psych, EBA), and a PhD in organizational development and learning games.

Gorm Larsen

Associate Professor in communication and media science, PhD, Department of Communication and Psychology at Aalborg University, Copenhagen. Gorm research in narratology, dialogical discourse analysis and theory of positioning on the basis on especially Mikhail Bakhtin

Abstract

The purpose of this article is to address the educational aspect of pondering in terms of the reflection and reconsideration that the arts and humanities are both known and renowned for. While arts and humanities have, for many years, been under political pressure to adopt the more solution-oriented attitude of hard science, our students were quick to adopt this trend, too, and they are requesting classes and tools for quick-fixing, rather than activities that facilitate deep learning. Instead we argue for a two-sided approach, where critical reflection through pondering is in dialogue with and mutually supportive to problem-orientation. We discuss some perspectives and possibilities of learning that can enhance the reflective dimension of academic practice among students and report on an experiment that employs learning portfolios as a student-driven

tool for facilitating the reflective pondering necessary for developing a professional identity that is focussed not only on solutions and presentations, but also on a deeper understanding of issues.

Keywords learning portfolios, pondering, humanities, neo-liberalism, students

Introduction

This article discusses the educational challenges for the arts and humanities, in light of the increasing market orientation that universities currently face. Arts and humanities seek to ward themselves from the political winds of change coming in from the technical sciences, and the attempt to push discourse towards more market- and utility-oriented concerns. As teachers, we experience an ever-greater demand for competencies that are easily marketed and 'career beneficial', often at the cost of academic virtues distinctive to the field. On the basis of experiences gleaned from using portfolios as a teaching method, we discuss their opportunity for making students *ponder and foster the depth necessary to make their studies a road into, and not just through, the arts and humanities. Our point is, that this pondering supports the students' learning process and their faculties and skills to work problem-orientated.*

The university's gradual market orientation

Since the first universities saw the light of day, their institutional purpose has undergone radical developments. From initially being instrumental to the rulers' governing of the crowd, and later by serving the crown's interests, universities are today increasingly oriented towards the masses and their needs for education and operational knowledge (Kristensen *et al.* 2007).

A key issue in this debate is to whom or for what purpose the university's knowledge is beneficial. Kant (1798/2007) described how the original university serviced the crown's need for knowledge useful for governing the masses. Departments of medicine were instrumental for ensuring physical well-being, schools of law were instrumental in ensuring the integrity of material goods and colleges of theology ensured the eternal good. Philosophy stood in their shade, as its contribution was more likely to undermine than strengthen the crown's power. In Humboldt's (1809/2007) outline

of the classic German university, research is separated from the purpose- and utility-oriented production of knowledge. Similar divisions were seen in France in the wake of its revolution, as universities were tasked with the purpose of epistemological and ontological research. The professional-, business- and market-oriented production of knowledge was outsourced to specialised academies. During the next two centuries, universities gradually became more oriented towards facilitating education for the masses.

During the 20th century, universities experienced increased pressure towards what we today see as market orientation (Biesta 2009; Rizvi and Lingard 2010). Now, as liberal research is gradually replaced with more strategic, grant-oriented funding, universities are compelled to focus on producing whatever knowledge is demanded and to refit their educational programmes to suit market expectations.

Market orientation impacts universities in two ways: 1) they are held accountable for how their knowledge production is beneficial to society's interests, and 2) market interests are given the opportunity to influence what research universities are expected to conduct. Gibbons (1997/2007) describes the shift from a context-independent, modus-1 research approach towards the transdisciplinary and application-oriented, modus-2 research approach. In modus-2, universities can no longer autonomously decide what kinds of knowledge to produce, but are inclined towards the types of knowledge, problems and solutions put in demand by society's interests (Nielsen 2007).

Käufer and Scharmer (2007) claim that the knowledge conveyed by universities is constantly becoming less and less relevant, whereas the knowledge that is relevant is being conveyed less and less by universities. They illustrate universities as conveyers of knowledge and raises the question of utility as determined by whether this knowledge is useful or not, claiming that universities should contribute to innovation, that is modus-2 even further.

The shift towards a market-oriented understanding of purpose has had a profound impact on recognition of the arts and humanities' value. In light of market value, the contributions from engineering and science are evident as tangible innovations. Still, figures1 indicate the financial reward to be substantial when em-

ploying a Master of Arts, compared to one with a civil engineering background.

Teaching the humanities in the gap between problems and solutions

A key part of humanistic competency calls not only for solving problems by applying humanistic approaches, but also for creating new problems through the deconstruction of the adequacy of existing solutions (Henriksen 2014). From a rationalist perspective, solving problems calls for rational principles either to solve, or at least moderate, an identified problem. In contrast, a poststructuralist perspective accentuates the inadequacy of an existing solution in order to revitalise the underlying problem, thereby rendering the solution unviable. The humanities student must be able both to apply solutions to problems and to deconstruct existing solutions as possibly inadequate, and consequently have to deal with the dialectic relationship between problems and solutions.

As teachers, we can frequently observe the commercialisation of the university, as students' orientation towards utilisation is particularly prominent. In Käufer and Scharmer's description of the development in the modern university, they use Schön's conception of 'reflection in action' to characterise how today's students seemingly exhibit their preferences by giving priority to courses that provide them with operational and marketable skills. It is no longer satisfactory to know what and why; today's students express an impatient desire to approach and solve concrete problems (Käufer and Scharmer 2007, 248ff).

As teachers at the Master in Communication at Aalborg University, we frequently experience this orientation through questions like 'What is the practical use of this?' whenever a topic's alignment to a potential, future practice is not immediately visible. Here, Weber's (1904/1995) distinction between goal- and process- oriented rationality becomes visible as eagerness towards being able to handle future issues and less towards pondering on the process of recognition. The dialectic relationship between problems and solutions, values and goals is out of balance.

Biggs and Tang's (2007) typifies this binary representation of student rationality in their Robert and Susan personas: Robert navigates strategically to pass his exam while work-dodging to the

greatest possible extent, while Susan allows herself to ponder on the process, deepening her understanding. Robert's surface learning enables him to solve immediate problems, while Susan's more lingering strategy gives her an opportunity for deeper learning by understanding the problem, problematising it and exploring alternative solutions. Biggs & Tang notice how the number of 'Roberts' seems to have increased significantly, and attribute this shift in the average student profile to mass enrolment in universities, alluding to the mistake of enrolling some of the 'Roberts'. This shift of interests towards readily marketable skills can be seen as a neoliberal consequence of the market situation to which the students must submit. Considering the 'Roberts' party, one can argue that it can be difficult to promote oneself in the labour market as being extremely critical of existing practices, aiming at the deconstruction of existing solutions. In favour of the 'Susans', one might argue that, if the humanistic skills are reduced to instrumental tools to produce solutions to immediate problems, the humanistic candidate will be reduced to a quick-fixing consultant without sufficient background.

In the shift of educational policy and theory from knowing to doing, the student is constructed as the performative student (Barnett 2009, 430). By neglecting a distinctive role "for knowledge that transcends specific social practices, interests and contexts, these approaches remove the grounds for a critical relationship between theory and curriculum policy and practice" (Young 2008, 82), and expresses an "anti-educational" marketisation of the educational policy. Teaching humanities would become professional training instead of academic education. Here, Käufer and Scharmer's emphasis on practice appears to be too short-sighted in an academic, educational context.

As teachers, we argue for an intermediate position where deep learning and acknowledgement are perceived as prerequisites for more market-oriented activities and strategies. Humanistic education is not just a question of getting application-oriented knowledge and skills; it is about academic reflection, building and a special modus to existence; that is, "a much wider form of human" (Barnett 2009, 431). As constant change makes the future unpredictable, ideal knowledge is not a single type, but a conglomerate of many.

With the predominant demand for the 'Roberts' and their superficial skills, it is a challenge to establish and maintain students' fo-

cus on lingering activities. We see, in other words, a challenge as a consequence of the neoliberal economy for the didactics of the humanities with deep learning and cognition. How can we didactically create academic pondering in humanistic education?

Pondering as a learning state of mind

Pondering is seen as the state of mind that precedes deep and critical reflection. To become able to enter this mental state, one has to slow down and leave the straight, determined course of performance and production. To ponder means to be both able and willing to reconsider processes and procedures while production and performance are put on hold.

Through his concept of professional domains, Maturana (Maturana and Varela 1992) introduces a temporally defined space for the reflective phase of professional practice. By separating the domain of production from that of reflection, he semantically separates the two rationalities that, in turn, characterise professional practice. Professional objectivity, methods and tools are linked to the domain of production and are used in the actual problem-solving process. When transitioning to the domain of reflection, professional objectivity and causality is abandoned in favour of a more investigative, second-order understanding of the professional practice. Here, the possibilities and limitations of the habitual understanding of production are addressed, in order to allow alternative perspectives and their potential contributions to emerge. If this perspective is translated into different approaches to knowing and learning, the student's entrance into the domain of production is about solving problems, undertaking a job or an assignment by applying operational tools to reach a solution. Shifting to the domain of reflection puts a break to this search for solutions and instead encourages reflection upon the appropriateness of the applied approaches through which new understandings and approaches may occur.

To move the students from the domain of production to that of reflection would require a didactic choreography that shifts the focus from problem solving to problem understanding. Since a problem-solving approach would invite the application of well-established solutions, the problem-oriented approach invites to the development of deeper understandings of the problem prior to any investigation of possible solutions. This is where we use the notion

of pondering to frame the academic lingering for rethinking the truisms that connects problem and solution. To Barnett, the process of obtaining knowledge influences human beings. An awareness of this becoming is more relevant than ever: in a complex and changing world, the separation of educational knowledge and skills is insufficient.

This pondering-approach to learning and teaching is a principal critique of the dominant jug-and-jar model for teaching that sees the student as a container to be filled. Dreyfus and Dreyfus (1986) devised a concept for skills development that passes through five levels – from novice to expert. According to Dall'Alba and Sandberg (2006), their model focuses on each stage and not the individual's development of professional skills. It also assumes progress as continuous and stepwise. This might be the case, but the notion is generally rather an idealisation. To this horizontal skills development, Dall'Alba and Sandberg operate with a vertically embodied understanding connected to practice. These two dimensions illustrate that every social, historical, cultural or personal context interferes with skill development. In this perspective, professional learning and development are not just questions of practice and understanding, but also of self-understanding, or, in the words of Barnett, the coming to be.

Although Dall'Alba and Sandberg's model is related to the development of professional skills, we find that the principle of coupling the horizontal and vertical dimensions of learning is applicable to academic learning contexts as well, because this points to the importance of individuality and self-reflection as an essential part of learning: the process of becoming through pondering.

Learning portfolios as a tool for choreographing pondering
To better allow students an opportunity to ponder on their personal becoming as academics, we experimented with the use of learning portfolios as a self-reflective tool for Master's degree students' first semesters during 2014 and 2015. This experiment aimed to give salience to the deeper ends of the students' academic practice.

Learning portfolio differs markedly from that of a presentation or performance portfolio (Zubizaretta 2004, 4). Performance portfolios document the *outcome* of learning, while learning portfolios reflect the *process* of learning. Creating a learning portfolio is a more open,

flexible, unpredictable and even painful task compared to creating a presentational portfolio, or any other text that aims at presenting specific skills and accomplishments (Zubizaretta 2004, 7). Therefore, we made the assumption that working with learning portfolios could elicit the students' ability for independent (re)consideration giving them the opportunity to ponder on their studies.

Teaching method and process

The production of learning portfolios was integrated into an introductory course called Professional Wondering and Exploration, which was taught by two of the article's authors. This course trains the students' ability to develop and express wonderings based on human experience with the purpose of formulating scientific research questions and scientific problems related to communication (Curriculum, 2014). A key learning objective here is to be able to look inwards and to reflect critically on one's own learning and understanding. The portfolio assignment was introduced during this course, but aimed to address all learning activities of the semester. The portfolio assignment was announced at the beginning of the semester and was to be handed in at the end of the semester. During this period, the students were given three classes on the task:

1. Students received initial instructions of the procedure and requirements of the task.
2. A mandatory workshop followed, focusing on different work and design strategies.
3. A few weeks before the assignment deadline, the students were invited to participate in a supplementary workshop that focussed on preparing the portfolio for submission.

Collaborative learning elements were integrated into all three classes via tasks such as peer discussion and reviews/feedback.

The didactic design of the assignment was based on Zubizaretta's (2004) three principles: reflection, documentation and collaboration. Reflection leads to the composition of reflective narratives of learning; documentation is the collection, selection and disposition of evidence for learning; and collaboration occurs through sharing, discussion and feedback from peers and teachers. Zubizaretta argues, "the student who pulls all three domains together stands a

greater chance of transforming an incidental learning activity into a deeper, enduring learning process" (Zubizaretta 2004, 21). Students were encouraged to keep a learning logbook and to collect a variety of learning materials during all study activities throughout the semester. As the collections of materials grew larger, the students could start writing coherent texts about their learning process. This two-part workflow allowed "the deliberate and systematic attention […] to a student's self-reflective, metacognitive appraisal of how and, more importantly, why learning has occurred" (Zubizaretta 2004, 4).

Due to the explorative character of the teaching experiment, the requirements for passing the assignment were held at a bare minimum, hence three simple requirements were given for the final portfolios: 1) Electronic submission, 2) Inclusion of all the semester's ten study activities, and 3) Timely submission. Along the way, the students discussed examples of how a learning portfolio might look, but no explicit instructions were given regarding how or what to write.

Findings

94 portfolios were submitted from the 2014 and 2015 courses. The material has been analysed through repeated close readings and coding of significant themes of content and linguistic strategies in the students' descriptions of their individual learning processes. A further elaboration on our findings and their significance for the use of learningsportfolios as didactic technology of reflection will be unfolded elsewhere. In the following, we give a short insight into some of our key findings illustrated by representative excerpts from students' portfolios. These findings sustain our assumption that working with learning portfolios has the potential to make students think deeply during the process and on their prospects of learning. The majority of portfolios contained emerging or detailed reflections of learning. Three interrelated themes seem to have had particular impact on the students' individual learning processes:

- Self-acknowledgement and agency
- Attitude and strategy
- Connections and progression

Through their acknowledgement of self and personal agency, the students positioned themselves as learners who realised that they are responsible for their individual learning process:

> I have been very happy with this candidate and the way it has been initiated, because it reminds me, that I'm actually in the process of learning, and this causes me to reflect on what I am actually thinking about and why. […] so I think this start encouraged me to look up and remember why I am here and what I want out of it. (translation from portfolio 31, 2014)

One exercise connected to the portfolio assignment was to write a personal, professional profile based on previous and future learning. According to the students, this became a kick-starter for their writing process, because it made them see themselves as academic beings who already had a professional identity to build on, yet it also exposed gaps for further learning in the years to come. Considering the 'hows' and 'whys' of their education led them to rediscover how and why they study at all.

The second recurring theme in the portfolios was the impact of attitude on students' study strategies. The students became aware of how their mental approaches influenced their learning experiences and outcomes:

> Already when I read the [course] description, I had a very negative attitude; and by reading the curriculum texts with a negative premise, I only confirmed myself that it was useless and unimportant. But but but! After the course had finished and I had to reflect on it in this portfolio, I realized something. I need to be better at
>
> 'open thinking'. [...] the attitude I have towards a texts, even before I read it, affects what I get out of it. (translation from portfolio 42, 2014)

This particular student experienced the benefits of patience and open-mindedness, even as the purpose and usability of the learning activity was not obvious from the beginning:

> I would like to try to develop my thinking and approach to texts, projects, preparation, etc. so that I do not immediately lose interest if I [...] So, I am about to learn that it is okay to be confused, it just means that you have come across something new, which you then may/must try to understand or accept [...]. (translation from portfolio 42, 2014)

Several portfolios exhibited similar acknowledgements of confusion and insecurity as an inevitable, part of the learning process. This added a more constructive understanding of seemingly problematic feelings.

The third theme with influence on learning was the connections and progression within and across perspectives and activities:

> When I wrote my logbook-notes, I often thought, that the process was unnecessary. But now, when I keep the statements together, I can see that it is because I could not see the development in my own approach to special academic problems. Therefore, I believe that the process in itself has been the most important issue here – not this final product. […]. (translation from portfolio 22, 2015)

Several students were quite sceptical about the portfolio assignment. Writing reflectively about learning is a slow and unpredictable process, and several students found the task annoying at first. Despite the struggle, most developed a desire to continue their reflective writing. In Zubizaretta's terms, they came to "understand the satisfaction of taking ownership of their own learning" (2004, p. xvi).

Evaluation and assessment

The collection of learning portfolios shows how this kind of reflective writing generates increased awareness and acknowledgement of the personal process of learning. Learning portfolios do not guarantee deep reflective learning, but they seem to offer students an opportunity to ponder on their educational process, which might enhance their scope of studying to more than the mere acquisition of practical skills.

As is apparent from the excerpts above, creating a learning portfolio is a self-centred activity aimed at self-reflection and -exploration. As analysis shows, self-centred writing, in some cases, turned into self-promoting or self-absorbed writing instead. The cases can be divided into three categories of self-positioning: as the observer, as the evaluator and as the learner.

The examples above all illustrate the learning position as students reached new insights and new paths to deeper learning. Self-exploration and -reflection can be found, e.g. as narratives of insecurity and confusion, leading to wondering, reconsidering and new discoveries about their becoming as better learners. Not all students were able to represent themselves as learners, either because they did not go beyond observation, or because they ended up evaluating rather than reflecting on their learning.

The observers resorted to writing descriptions of what happened: "We did this assignment by doing so and so; we learned this and that". These students put themselves in a passive and distanced position without integrating personal aspects or investments such as feelings, wonder or explanations. The evaluators, on the other hand, jumped to evaluative conclusions about the learning activity and/or their own performance. "It was fun/difficult/interesting; I was good/bad at …". A few students even took the opportunity to give critical feedback to the educators. The writing of these students were, above all, judgemental. In neither case did the students show any personal obligation to or responsibility for the learning process or its outcome; they did not take ownership of their learning.

Conclusion

Using portfolios to facilitate pondering was in no way an easy task, neither for the students, nor for us as teachers. From our perspective, it was worth the effort. Some students did resort to more evaluative or self-presenting approaches, but to those students who embraced the task, the portfolios helped them to become academic, reflective students. The contribution to humanistic didactics from using portfolios is the opportunity it provides for students to ponder on the connections and contexts that tie together professional competence across otherwise separated exams and classes. Ideally, the portfolio's pondering will support a shift in mindset from problem-solving to problem-understanding and -orientation and allowing the students

to be wonderers and *students*. Consequently, the neo-liberal utility orientation is challenged through lateral reflections, opening up room for moving the focus back to the deeper understanding that Kant called for.

To humanities, portfolios propose an opportunity to withstand the current threat of watering down the humanist candidate's professionalism as would happen if it was reduced to a battery of quick-fixes. Rather than trying to ride the neoliberal winds towards more marketable skills, tools for pondering offer a road back towards the deepened understandings that humanities is best known for.

References

Barnett, R. 2007. *A will to learn: Being a student in an age of uncertainty*. Maidenhead: Open University Press.

Barnett, R. 2009. "Knowing and becoming in the higher education curriculum". *Studies in Higher Education*, 34:4, 429-440.

Biesta, G. J.J., 2009. *God uddannelse i målingens tidsalder*. Købehavn: Forlaget Klim.

Biggs, J., and C. Tang, 2007. *Teaching for Quality Learning at University. 3. ed.*, Berkshire, UK: McGraw-Hill.

Dall'Alba, G. and J. Sandberg. 2006. "Unweiling Professional Development: A Critical Review of Stage Models". *Review of Educational Research*, Vol. 76, No. 3, 383-412.

Flexner, Abraham. 1930/2007. „Ideer om et moderne universitet." In *Ideer om et universitet. Det moderne universitets idehistorie fra 1800 til i dag*, edited by Jens Erik Kristensen, Kim Elstrøm, Jens Viggo Nielsen, Mads Pedersen, Bjarne Vind Sørensen and Henrik Sørensen, 159-172. Aarhus: Aarhus Universitetsforlag.

Gibbons, M., 1997/2007. "Hvilken slags universitet? Forskning og undervisning i det 21. århundrede" [What kind of University? Research and teaching in the 21st century"]. I *Ideer om et universitet. Det moderne universitets idehistorie fra 1800 til i dag*, edited by Jens Erik Kristensen, Kim Elstrøm, Jens Viggo Nielsen, Mads Pedersen, Bjarne Vind Sørensen and Henrik Sørensen, 217-229. Aarhus: Aarhus Universitetsforlag.

Huxley, Thomas Henry. 1876/2007. "Tale om universitetsdannelse." In *Ideer om et universitet. Det moderne universitets idehistorie fra 1800 til i dag*, edited by Jens Erik Kristensen, Kim Elstrøm, Jens

Viggo Nielsen, Mads Pedersen, Bjarne Vind Sørensen and Henrik Sørensen, 101-113. Aarhus: Aarhus Universitetsforlag.

Kant, I. 1798/2007. "Fakulteternes strid" ["Der Streit der Fakultäten und kleinere Abhandlungen"]. I *Ideer om et universitet. Det moderne universitets idehistorie fra 1800 til i dag*, edited by Jens Erik Kristensen, Kim Elstrøm, Jens Viggo Nielsen, Mads Pedersen, Bjarne Vind Sørensen and Henrik Sørensen, 75-83. Aarhus: Aarhus Universitetsforlag.

Kristensen, J.E., Elstrøm, K, Nielsen, J.V., Pedersen, M., Sørensen, B.V. og H. Sørensen. 2007. *Ideer om et universitet: Det moderne universitets idehistorie fra 1800 til i dag*. Aarhus: Aarhus Universitetsforlag.

Käufer, K., and C. O. Scharmer, 2007. "Universitetet som udgangspunkt for det iværksættende menneske - og som 'landingsbane' for det nyes kommen-til-verden" ["Universität als Schauplatz für den unternehmenden Menschen. Hochschulen als 'Landestationen' für das In-die-Welt-Kommen des Neuen"]. I *Ideer om et universitet. Det moderne universitets idehistorie fra 1800 til i dag*, edited by Jens Erik Kristensen, Kim Elstrøm, Jens Viggo Nielsen, Mads Pedersen, Bjarne Vind Sørensen and Henrik Sørensen, 235-254. Aarhus: Aarhus Universitetsforlag.

Lee, David, and Howard Newby. 1983. *The Problem of Sociology. An Introduction to the Discipline*. Routledge.

Maturana, H.R., and F.J. Varela, 1992. *The tree of knowledge. The biological roots of understanding*. Boston: New Science Library.

Moon, J. A. 1999. *Learning Journals. A Handbook for Academics, Students and Professional Development*, UK: Kogan Page Limited.

Nielsen, J. V., 2007. „Michael Gibbons (f. 1939)". I *Ideer om et universitet. Det moderne universitets idehistorie fra 1800 til i dag*, edited by Jens Erik Kristensen, Kim Elstrøm, Jens Viggo Nielsen, Mads Pedersen, Bjarne Vind Sørensen and Henrik Sørensen, 213-215. Aarhus: Aarhus Universitetsforlag.

Rizvi, F., and B. Lingard. 2010. *Globalizing Education Policy*. New York: Tylor & Francis.

Humboldt, W. von, 1809/2007. „Om den indre og ydre organisation af de højere læreanstalter i Berlin. Det moderne universitets idehistorie fra 1800 til i dag". I *Ideer om et universitet. Det moderne universitets idehistorie fra 1800 til i dag*, edited by Jens Erik Kristensen, Kim Elstrøm, Jens Viggo Nielsen, Mads Pedersen,

Bjarne Vind Sørensen and Henrik Sørensen, 89-113. Aarhus: Aarhus Universitetsforlag.

Weber, M. 1904/1995. *Den protestantiske etik og kapitalismens ånd* [Die protestantische Ethik und der Geist des Kapitalismus]. København: Nansensgade Antikvariat.

Weber, M. 1919/2007. „Videnskab som levevej" ["Wissenschaft als Beruf"]. I *Ideer om et universitet. Det moderne universitets idehistorie fra 1800 til i dag*, edited by Jens Erik Kristensen, Kim Elstrøm, Jens Viggo Nielsen, Mads Pedersen, Bjarne Vind Sørensen and Henrik Sørensen, 135-156. Aarhus: Aarhus Universitetsforlag.

Young, M.F.D. 2008. *Bringing knowledge back in: From social constructivism to social realism in the sociology of education*. Abingdon: Routledge.

Zubizaretta, J. 2004. *The Learning Portfolio. Reflective Practice for improving Student Learning*, Inc USA: Anker Publishing Company.

Notes

1   http://hdl.handle.net/10398/8741

A Consilient Approach to Horror Video Games
Challenges and Opportunities

Mathias Clasen *is assistant professor in literature and media at the School of Communication and Culture, Aarhus University. His research is mainly concerned with the interdisciplinary study of frightening entertainment. He is associate editor of Evolutionary Studies in Imaginative Culture.*

Jens Kjeldgaard-Christiansen *is graduate student at the School of Communication and Culture, Aarhus University. His research covers the agonistic structure of popular culture and its adaptive roots. He has published on the psychology of pop-cultural villains in Evolutionary Behavioral Sciences.*

Abstract

In response to the crisis in the humanities, some scholars have proposed consilience as a solution. They argue that humanists should build on recent findings in the sciences of mind, including cognitive and evolutionary psychology. We discuss the benefits and pitfalls of such an approach, illustrating our discussion with an analysis of the horror video game *Amnesia: The Dark Descent*. We argue that recent theoretical and empirical developments in the evolutionary social sciences can make sense of how and why horror games so effectively foster immersion and predictable psychophysiological responses. They target evolved survival mechanisms and are structured to reward vigilance and persistence in the face of fear- and anxiety-provoking stimuli. Finally, we discuss and refute a number of common criticisms of the consilient approach.

Keywords media psychology, game studies, consilience, horror, evolutionary psychology

Introduction

By their own admission, the humanities are in trouble. Interest is dwindling in- and outside academia, funding is decreasing, employment prospects are poor (Gottschall 2008; Delany 2013; Lewin 2013). The crisis has many causes, but when the public intellectual E.O. Wilson addressed the problem in *Consilience* (1998), he identified at its crux an epistemic rift between the humanities and the sciences. The lack of fruitful dialogue between the "two cultures" (Snow 2012) resulted for the humanities in epistemic isolation; they were left behind, unable or unwilling to explore the implications of the 20th century's major scientific advances. Wilson argued that this unhappy development reached an apogee with the emergence of poststructuralism in the 1970s. Declaring that human inquiry could never transcend the indeterminate nature of the sign, the poststructuralists went on a campaign of radical antifoundationalism. There was no valid way, they held, of choosing between competing hypotheses, especially not in human affairs. The ensuing intellectual climate has sustained scientifically outmoded explanatory paradigms such as orthodox psychoanalysis and later reconfigurations of Freudian theory. How could humanistic scholars make new and exciting discoveries when working from this intellectual impasse? In giving up truth, poststructuralism also gave up scientific relevance.

We agree with Wilson that this is a major problem. We agree also with his solution. Humanistic scholarship may be concerned with the idiosyncrasies of a particular species, but it does not follow that the enterprise should be itself equally idiosyncratic. The humanities will benefit from adopting as a methodological touchstone the basic tenet of consilience: reality forms a unified, hierarchical causal order (Carroll, McAdams, and Wilson 2016). The laws of biology obey, but do not reduce to chemistry; the laws of chemistry obey, but do not reduce to physics. From this uncontroversial epistemology fractionates a useful heuristic: the human sciences should constrain, but not determine how we approach art (Gottschall 2003). A consilient approach, then, is uniquely equipped to shed light on the form and function of cultural artifacts. It counteracts the antiscientific ethos of dominant poststructuralist paradigms, which has contributed significantly to the crisis and perceived irrelevance of the humanities.

The poststructuralist dominance has not gone unchallenged, and many have done so from a Wilsonian position (Boyd 2009; Carroll 2013; Gottschall 2008; Pinker 2002). An increasing number of "biocultural" scholars absorb the major theoretical and empirical breakthroughs in, especially, the evolutionary social sciences (Carroll et al. 2015). They argue that the humanities stand to reclaim lost relevance and prestige if they reconnect to the knowns of the human condition. Such an aspiration will neither erode the purpose of the humanities, nor turn their rich and time-honored disciplines into the handmaidens of science; the cultural-historical complexity of humanistic subject matter will continue to necessitate traditional approaches in an integrated paradigm (Boyd, Gottschall, and Carroll 2010; Carroll 2013; Rainsford 2007). What will have to give is the theoretical free-for-all that allows humanistic scholars to make frankly silly pronouncements about, for instance, the topic of the present article: horrific entertainment. Psychoanalytical horror study (Dumas 2014; Schneider 2004), for example, proceeds from unscientific premises (Kihlstrom 2009) that profoundly distort its subject matter. Thus, Barbara Creed (1996) manages to conceptualize wildly divergent film scares as different expressions of an abstract "monstrous feminine," a metaphorical image of the "castrating female" that metaphorically threatens the integrity of the male body. There are at least two problems with this interpretation. First, there is no evidence that humans are—or indeed have reason to be—possessed of such a phobia. Second, Creed's metaphorical castrator molds itself to any possible audiovisual configuration. It is an empty concept turned empty explanation. If horror studies is to make real progress, then horror scholars must abandon antiquated theories and stretchy metaphors. They must locate the field within a consilient research paradigm (Clasen 2012; Clasen 2016).

In this article we illustrate the consilient approach by analyzing the popular survival-horror video game *Amnesia: The Dark Descent* (Frictional Games 2010), thus demonstrating the explanatory power of a vertically integrated framework. We focus on *Amnesia* because it stands as an exemplar of the subgenre, a crystallization of the elements that characterize this type of video game (Tosca 2014). The game exploits narrative, ludic, and modal devices that together target the human psychophysiological danger-management system, rewarding player vigilance and persistence in the process.

The analysis serves as an implicit argument for its assumptions: only by measuring our conclusions against the scientific evidence can we ensure integration and validity.

Amnesia: The Dark Descent

Amnesia is set in a haunting vision of 19th-century Prussia. The player assumes the role of the amnesic protagonist, Daniel, who inexplicably wakes up in the dark, dilapidated Castle Brennenburg. Daniel quickly discovers a note, seemingly of his own making, explaining to him that he has erased his own memory, and that he must now venture into the Inner Sanctum of the castle to kill the evil baron Alexander. This will bring redemption to him and his pre-amnesic self. It is also revealed that a "shadow" is stalking Daniel, and that it can only be evaded, not stopped. So informed, Daniel begins his descent.

Fig. 1. The dark and disturbing interior of *Amnesia*'s Castle Brennenburg.

The independent game was an across-the-board success. It has sold more than one million copies (Grip 2012) and prompted thousands of YouTube videos featuring players responding to it with vocal terror. The prominent gaming website IGN.com called it "one of the

scariest games in recent memory" and added with approval that few other video games "are able to conjure up an atmosphere this genuinely frightening" (Onyett 2010). *Amnesia* belongs to a subgenre of horror video games called survival horror. This subgenre, the digital history of which stretches back to the early 1980s, lets the player control a more or less defenseless avatar in a game-world brimming with danger (Perron 2009). The primary objective of such games is to survive these dangers. *Amnesia* thrusts players into a dark, threatening, and unpredictable virtual environment and is structured around a single-minded affective ambition: to terrify. It uses a fairly narrow range of formal devices to achieve that ambition. What, then, makes the game so effective? And why do so many people willingly seek out that kind of experience? It is in answering such questions of ultimate causation that the consilient approach shows its value.

Amnesia is effective as a horror game because it imaginatively transports the player into a virtual environment teeming with stimuli that meet the input criteria of an evolutionarily conserved defense mechanism hardwired into the human nervous system. That mechanism – the "fear module" (Öhman and Mineka 2001) – has evolved over millions of years in response to threats to our ancestors' fitness, and its design specifications reflect its evolutionary lineage. The human fear module is preferentially attentive to evolutionarily relevant stimuli such as reptiles, spiders, and hostile conspecifics (LoBue 2013; Marks and Nesse 1994; Seligman 1971), which explains why horror monsters reflect ancestral dangers rather than modern ones such as power tools and trans fats (Clasen 2012). Moreover, the operation of the module is characterized by automaticity, hyper-reactivity, and cognitive encapsulation (Öhman and Mineka 2001). This explains why humans tend to jump at shadows – in potentially life-threatening situations, a false positive is preferable to a false negative (Atran and Norenzayan 2004; Haselton and Buss 2000) – and find it difficult to consciously extinguish the physiological response to such a false alarm. Mediated horror, including horror video games, has developed to take advantage of these design characteristics.

Amnesia uses a first-person optical point-of-view to foster player immersion (Krzywinska 2002; McMahan 2003) (fig. 2). This enables the player to imaginatively enter the game themselves. As the game

designers put it, "one of the main goals was for the player to become the protagonist" (Grip 2010). Visual and auditory cues scaffold this mechanism of imaginative transportation. Whenever Daniel encounters disturbing scenes (such as a tableau of decomposing corpses or a monster in the distance), the avatar's response anticipates and mirrors the player's intended response: the game emits sonic representations of an accelerating heart, quickened breathing, and anxious whimpering. Moreover, the visual field is distorted in a representation of fear-triggered perceptual changes (fig. 3). These audio-visual cues are designed to intensify the player's emotional response, in a manner parallel to the use of reaction shots in horror film. Finally, the player interacts with the virtual environment via the avatar. The player's actions thus determine the outcome of the game, within scripted parameters set by the programming. A quick flick of the mouse can mean the difference between life (the avatar lives and the game goes on) and death (the avatar dies and the player is forced to replay that section of the game). This illustrates the advantage of horror in video games over horror in other media: interactivity prompts the player to invest emotionally in the unfolding narrative, which further enhances immersion (Lynch and Martins 2015; Rouse III 2009).

Fig. 2. *Amnesia*'s first-person perspective fosters immersion.

The virtual environment of *Amnesia* features a concentration of stimuli that reflect the structure of the human fear module rather than the structure of the player's empirical world. Seldom do we find ourselves alone in the dark, lost and hunted by predatory forces of evil while teetering on the edge of insanity. Yet this premise resonates powerfully with evolved dispositions. Humans are relatively weak and defenseless; what we lack in the way of muscle, claws, and fangs, we make up for in our ability to imaginatively forecast and plan for worst-case scenarios, as well as our unparalleled capacities for social cognition and cooperation (Gazzaniga 2008; Tomasello et al. 2005). The flip-side of our hyper-social nature is the anxiety that can attend involuntary isolation. Isolation leaves us vulnerable to predation and assault. We evolved to feel anxiety in response to isolation because this negative emotion motivates us to seek others for protection and comfort (Cacioppo and Patrick 2008). The only prospect worse than being alone is being alone in dark and unpredictable surroundings, prey to powerful and malicious agents. This is the evolutionarily salient nightmare scenario brought to life in *Amnesia* and intensified by the vulnerability imposed on the player. The game-world affords the player no weapons and no way of engaging its monsters in combat.

Amnesia's celebrated insanity mechanic is designed to increase the player's sense of vulnerability and to motivate defensive and exploratory in-game behavior. When the avatar is exposed to darkness for too long, the player experiences a lack of control and distortion of the visual field (fig. 3). This impairs the player's ability to escape the monsters. The use of light sources counteracts avatar insanity and restores full control, but has the side effect of attracting monster attention. It is a catch-22. Humans have poor night-vision, and darkness sets our fear module on edge because a loss of visual information makes us much more vulnerable to predation (Grillon and Davis 1997; Li et al. 2015). In *Amnesia*, however, the use of light sources to counteract the anxiety produced by darkness makes death by predation even more likely.
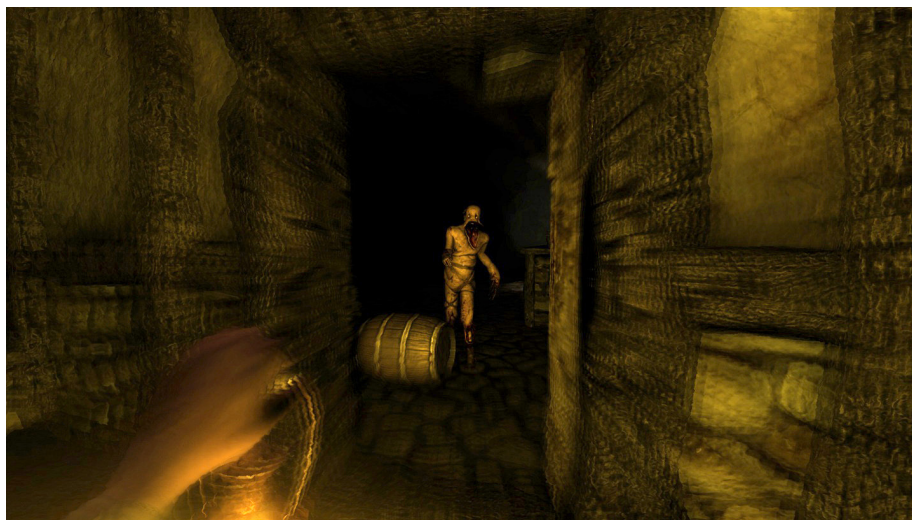
Fig. 3. The player suffers perceptual disturbances and monster attack.

The predatory monsters have vaguely distorted human-like morphology, malicious agency, and are equipped with means of predation, including a very large, fanged mouth and what appear to be claws. The odds of meeting such organisms in real life are slim to none, but the monsters are calibrated to meet the input specifications of the human fear module, which evolved to be sensitive to predator cues (Barrett 2005). *Amnesia*'s predators, however, are more horrifying than their real-world counterparts, such as big cats or hostile conspecifics. They are supernormal monsters, imaginary beings worse than anything nature ever produced, and thus more effective in generating a negative emotional response (Barrett 2010).

Amnesia also uses ambiguous cues of agency to prime the fear module, in particular the adaptive tendency of the module to overshoot given the slightest cue of danger. This aspect of the module, dubbed "hyperactive agency detection" (Barrett 2004), evolved to protect our ancestors from harm by camouflaged ambush predators. Early in the game the player sees doors blowing open, swinging chandeliers, and books falling from a bookcase. These events suggest agency, but that agency is withheld from the player. The result is a defensive anxiety response (Öhman 2008), one that keeps players on edge. The game designers' strategy of informing players that they are "stalked" by a "shadow," and then withholding that shadow from view during the first hour or so of gameplay

while exposing players to ambiguous cues of agency, is yet another example of how the game exploits evolved dispositions to engage players and provoke in them a negative emotional response.

Amnesia, then, is well designed to exploit the structure of the evolved and adaptive human fear module. The game rewards vigilance (only by paying close attention to affordances in the virtual environment can the player complete the game) and persistence in the face of game-induced negative affect (only by trial-and-error can the player build the expertise needed to avoid predators and solve the puzzles that halt story progression). Why do players expose themselves to a virtual experience predominantly structured around negative affect? We argue that horror in whatever medium satisfies an evolved desire for simulated experience (Clasen 2012; Steen and Owens 2001). Horror video games are particularly good at fostering immersion compared to horror in other media; in effective survival-horror video games, the player and the avatar melt together, producing a strong sense of immersion and thus strong emotional engagement (Rouse III 2009). They offer consumers intense emotional stimulation in a context known to be safe, and thus represent vectors to vicarious experience with levels of negative emotion not safely come by in real life.

Making sense of the effects, appeals, and functions of horror requires an understanding of the psychological underpinnings of the genre, including those aspects of the human fear module that at first glance appear irrational. Indeed, the cross-cultural penchant for horrifying entertainment is a puzzle for those who view humans as rational agents. The Freudians avoided that mistake by viewing humans as profoundly irrational, but committed another by positing chimerical mechanisms at the roots of human irrationality and horror liking. Consilience offers a corrective to that mistake. By building on and incorporating the latest, most robust research on human behavior, cognition, and emotion, a vertically integrated approach offers an adequate, up-to-date explanation of the peculiar appeals and workings of horror.

Challenges to the Consilient Approach

The consilient approach loads on both opportunities and challenges. We have proposed that the opportunities tilt the balance clearly in its favor, not least in the potential of consilience to restore epistemic

relevance to humanities scholarship (Carroll et al. 2015; Slingerland and Collard 2012). By bringing this scholarship into line with convergent findings from the human sciences, scholars in the humanities will be better equipped to contribute to integrative research on the human condition. In this section we address a number of oft-cited or -implied counterpoints to that view.

First is the epistemological angle. Some critics hold that the humanities represent a 'different way of knowing,' a realm of deeper insight sectioned off from the organon of science (Dupré 1993). The history of this lazy argument, as Wilson (1998) and others point out, is one of repeat failure. In the 19th century, for example, the vitalists anointed biological life an epistemic insuperable. In the 20th century, the goal post had moved to the human mind. Modern cognitive science is now prying at it from all sides, mapping its neural substrate and uncovering its astounding range of quirks and biases. Consilient humanistic scholarship, no more discouraged, has shed light on the forms and functions of art (Boyd 2009; Carroll 2013; Clasen 2012; Dutton 2009; Jonsson 2013; Kjeldgaard-Christiansen 2015). In the process it is showing an interlocking of cause and effect across disciplinary boundaries.

Others have argued that hermeneutic scholarship is so inherently complex as to be a bridge too far for the consilient approach (Goodheart 2007). This line of argument is demonstrably false. Humanistic scholars habitually make claims about what humans are like, and why. These are at least potentially scientific claims, examples of which feature in preceding sections of this article. The objection also seems confused when viewed from the perspective of the sciences. As the psychologist Steven Pinker points out, "the real medium of artists, whatever their genre, is human mental representations" (2002, 414). Mental representations – their reception, processing, and behavioral consequences – index psychological disciplines. The social sciences also explore the contents of such representations, including human interests, preferences, and concerns. Seeking to integrate between the two cultures, consilient humanistic scholarship is now assimilating the empirical methods of science and employing them to illuminate our shared imaginative investments (Carroll et al. 2015). Competent inquiry into human experience is indeed a complex and challenging undertaking, but it is neither for the humanities nor for the sciences a disarming one.

A lesson salvageable from the complexity argument is that the merits of consilience in the abstract cannot offset methodological imprudence. Consilient analysis connects disciplines in an order of increasing complexity that specifies potential explanatory ties (Carroll, McAdams, and Wilson 2016; Wilson 1998). For example, behavioral biology can inform evolutionary psychology, and evolutionary psychology can inform media interpretation—this was the assumption of our game analysis. But as investigators' theoretical starting point and area of application diverge in terms of ontic complexity, their ties begin to fall out of focus. This is not a lofty epistemological argument; it is the working assumption of the scientific enterprise. Thus, we do not try to explain why humans like sex (or horror) in terms of particle physics. We engage the problem at proximate levels, including those of evolutionary biology and cultural anthropology. The implication is that consilient humanistic scholarship must be eclectically prudent, and this entails basic literacy with candidate disciplines. These, naturally, center on the sciences of mind.

Finally, Geoffrey Harpham, former President and Director of the American National Humanities Center, has recently argued that disciplinary collapse, purportedly the aim of Wilsonean consilience, would compromise spaces of creative edification within and between disciplines (2015). He rightly notes that the formal disciplines represent "concessions to human finitude" (236) and hence a kind of bounded optimum. The answer to this charge is that no one, including Wilson and the authors of the present article, is proposing to collapse the disciplines. We are puzzled as to the referent of this radical position. However, the interdisciplinary forays allowed and lauded by Harpham (236) – and argued for by us – are only possible insofar as disciplinary borders are permeable in the academic praxis. They very often are not, especially for young and untenured researchers, and this is the real threat to scholarly creativity (Carroll 2010). Therefore, while we agree with what Harpham has to say for the value of the humanities qua humanities, we submit that his position is compatible with a consilient research paradigm, properly understood.

Conclusion

In this article we have argued for consilience as at least a partial solution to the crisis of the humanities. We illustrated the consilient approach with a short analysis of the horror video game *Amnesia: The Dark Descent*. Referencing especially the evolutionary social sciences, we showed that *Amnesia* is structured to target the evolved human fear module, thus eliciting predictable psychological responses and attendant behaviors. We also showed how a consilient approach to horror video games dissolves the paradox of horror by positing an adaptive function for imaginative artifacts designed to instill negative emotion in their audience. Humans evolved to find pleasure in vicarious experience with threatening scenarios. We concluded the article with a defense of consilience against its detractors. The consilient approach does not, contra their charges, run afoul of the complexly cultural subject matter of the humanities. Rather, it specifies promising, integrative perspectives on it. Many subjects in the humanities remain uncharted territory to consilient scholarship, and we are eagerly anticipating future exploration of these domains.

References

Atran, Scott, and Ara Norenzayan. 2004. "Religion's Evolutionary Landscape: Counterintuition, Commitment, Compassion, Communion." *Behavioral and Brain Sciences*, 27 (6): 713-30. doi:10.1017/S0140525X04230175.

Barrett, H. Clark. 2005. "Adaptations to Predators and Prey." In *The Handbook of Evolutionary Psychology*, edited by David M. Buss, 200-223. Hoboken, NJ: John Wiley & Sons Inc.

Barrett, Deirdre. 2010. *Supernormal Stinuli: How Primal Urges Overran Their Evolutionary Purpose*. New York: W.W. Norton & Co.

Barrett, Justin L. 2004. *Why Would Anyone Believe in God?* Walnut Creek, CA: AltaMira Press.

Boyd, Brian. 2009. *On the Origin of Stories: Evolution, Cognition, and Fiction*. Cambridge: The Belknap Press of Harvard University Press.

Boyd, Brian, Jonathan Gottschall, and Joseph Carroll, eds. 2010. *Evolution, Literature, and Film: A Reader*. New York: Columbia University Press.

Cacioppo, John T. and William Patrick. 2008. *Loneliness: Human Nature and the Need for Social Connection*. New York: Norton.

Carroll, Joseph. 2010. "Three scenarios for literary Darwinism." *New Literary History* 41: 53–67. doi:10.1353/nlh.0.0144.

---. 2013. *Reading Human Nature: Literary Darwinism in Theory and Practice*. Albany: SUNY Press.

Carroll, Joseph, Dan P. McAdams, and Edward O. Wilson, eds. *Darwin's Bridge: Uniting the Humanities and Sciences*. New York, NY: Oxford University Press.

Carroll, Joseph, Mathias Clasen, Emelie Jonsson, Alexandra R. Kratschmer, Luseadra McKerracher, Felix Riede, Jens-Christian Svenning, and Peter Kjærgaard. C. 2015. "Biocultural Theory: The Current State of Knowledge." *Evolutionary Behavioral Sciences*. Online first. doi:10.1037/ebs0000058.

Clasen, Mathias. 2012. "Monsters Evolve: A Biocultural Approach to Horror Stories." *Review of General Psychology* 16 (2): 222-229. doi:10.1037/a0027918.

Clasen, Mathias. 2016. "Terrifying Monsters, Malevolent Ghosts, and Evolved Danger-Management Architecture: A Consilient Approach to Horror Fiction." In *Darwin's Bridge: Uniting the Humanities and Sciences*, edited by Joseph Carroll, Dan P. McAdams, and Edward O. Wilson, 183-193. New York, NY: Oxford University Press.

Creed, Barbara. 1996. "Horror and the Monstrous-Feminine." In *The Dread of Difference: Gender and the Horror Film*, edited by Barry K. Grant, 35-65. Austin, TX: University of Texas Press.

Delany, Ella. 2013. "Humanities Studies Under Strain Around the Globe." *The New York Times*. Accessed January 15, 2016. http://www.nytimes.com/2013/12/02/us/humanities-studies-under-strain-around-the-globe.html?_r=0.

Dupré, John. 1993. *The Disorder of Things: Metaphysical Foundations of the Disunity of Science*. Cambridge, MA: Harvard University Press.

Dumas, Chris. 2014. "Horror and Psychoanalysis: A Primer." In *A Companion to the Horror Film*, edited by Harry M. Benshoff, 22-37. Malden, MA: John Wiley & Sons, Inc.

Dutton, Dennis. 2009. *The Art Instinct: Beauty, Pleasure, and Human Evolution*. New York, NY: Bloomsbury Press.

Frictional Games. 2010. *Amnesia: The Dark Descent*. PC. Helsing-borg: Frictional Games.

Gazzaniga, Michael S. 2008. *Human: The Science Behind What Makes Us Unique*. New York: Ecco.

Goodheart, Eugene. 2007. *Darwinian Misadventures in the Humanities*. New Brunswick and London: Transaction Publishers.

Gottschall, Jonathan. 2003. "The Tree of Knowledge and Darwinian Literary Study." *Philosophy and Literature* 27 (2): 255-268. doi:10.1353/phl.2003.0047.

Gottschall, Jonathan. 2008. *Literature, Science, and a New Humanities*. New York: Palgrave Macmillan.

Grillon, Christian, and Michael Davis. 1997. "Fear-Potentiated Startle Conditioning in Humans: Explicit and Contextual Cue Conditioning Following Paired Versus Unpaired Training." *Psychophysiology* 34 (4): 451-458. http://www.ncbi.nlm.nih.gov/pubmed/9260498.

Grip, Thomas. 2010. "How the Player Becomes the Protagonist." *In The Games of Madness*, November 22. Accessed January 17, 2016. http://frictionalgames.blogspot.com/2010/11/how-player-becomes-protagonist.html.

---. 2012. "Amnesia – Two Years Later." *In The Games of Madness*, September 10. Accessed January 17, 2016. http://frictionalgames.blogspot.dk/2012/09/amnesia-two-years-later.html.

Harpham, Geoffrey G. 2015. "Defending Disciplines in an Interdisciplinary Age." *College Literature* 42 (2): 221-240. doi:10.1353/lit.2015.0018.

Haselton, Martie G., and David M. Buss. 2000. "Error Management Theory: A New Perspective on Biases in Cross-Sex Mind Reading." *Journal of Personality and Social Psychology* 78 (1): 81-91. http://www.ncbi.nlm.nih.gov/pubmed/10653507.

Jonsson, Emelie. 2013. "The Human Species and the Good Gripping Dreams of H. G. Wells." *Style* 47 (3): 295–314. https://www.questia.com/library/journal/1G1-354858554/the-human-species-and-the-good-gripping-dreams-of.

Kihlstrom, John F. 2009. "Freud is a Dead Weight on Psychology." In *Atkinson & Hilgard's Introduction to Psychology* (15h ed.), edited by Susan Nolen-Hoeksema, Barbara L. Fredrickson, Geoff R. Loftus and Willem A. Wagenaa, 497. Hampshire, UK: Cengage Learning EMEA.

Kjeldgaard-Christiansen, Jens. 2015. "Evil Origins: A Darwinian Genealogy of the Popcultural Villain." *Evolutionary Behavioral Sciences* 10 (2): 109-122. doi:10.1037/ebs0000057.

Krzywinska, Tanya. 2002. "Hands-On Horror." In *ScreenPlay: Cinema/videogames/interfaces*, edited by Geoff King and Tanya Krzywinska, 206-223. London: Wallflower. pp. 206-223.

Lewin, Tamar. 2013. "As Interest Fades in the Humanities, Colleges Worry." *The New York Times*. Accessed May 26, 2016. http://www.nytimes.com/2013/10/31/education/as-interest-fades-in-the-humanities-colleges-worry.html?pagewanted=2&_r=0.

Li, Yadan, Wenjuan Ma, Qin Kang, Lei Qiao, Dandan Tang, Jiang Qiu, Qinglin Zhang, and Hong Li. 2015. "Night or Darkness, Which Intensifies the Feeling of Fear?" *International Journal of Psychophysiology* 47 (1): 46-57. doi:10.1016/j.ijpsycho.2015.04.021.

LoBue, Vanessa. 2013. "What Are We So Afraid of? How Early Attention Shapes Our Most Common Fears." *Child Development Perspectives* 7 (1): 38-42. doi:10.1111/cdep.12012.

Lynch, Teresa, and Nicole Martins. 2015. "Nothing to Fear? An Analysis of College Students' Fear Experiences with Video Games." *Journal of Broadcasting & Electronic Media* 59 (2): 298-317. doi:10.1080/08838151.2015.1029128.

Marks, Isaac M., and Randolph M. Nesse. 1994. "Fear and Fitness: An Evolutionary Analysis of Anxiety Disorders." *Ethology and Sociobiology* 15 (5-6): 247-261. doi:10.1016/0162-3095(94)90002-7.

McMahan, Alison. 2003. "Immersion, Engagement, and Presence: A Method for Analyzing 3-D Video Games." In *The Video Game Theory Reader*, edited by Mark J. P. Wolf and Bernard Perron, 67-87. New York: Routledge.

Pinker, Steven. 2002. *The Blank Slate: The Modern Denial of Human Nature*. London: Penguin Books.

Onyett, Charles. 2010. "Amnesia: The Dark Descent Review." *IGN*. Accessed January 18, 2016. http://www.ign.com/articles/2010/09/03/amnesia-the-dark-descent-review.

Perron, Bernard, ed. 2009. *Horror Video Games: Essays on the Fusion of Fear and Play*. Jefferson, N.C.: McFarland & Co.

Rainsford, Dominic. 2007. "The Bright Light of Science and the Dim Truth of Art. *European Journal of English Studies* 11 (3): 285-300. doi:10.1080/13825570701409599.

Rouse III, Richard. 2009. "Match Made in Hell: The Inevitable Success of the Horror Genre in Video Games." In *Horror Video Games: Essays on the Fusion of Fear and Play*, edited by Bernard Perron, 15-25. Jefferson, N.C.: McFarland & Co.

Schneider, Steven J., ed. 2004. *Horror Film and Psychoanalysis: Freud's Worst Nightmare*. New York: Cambridge University Press.

Seligman, Martin. 1971. "Phobias and Preparedness." *Behavior Therapy* 2: 307–321. doi:10.1016/S0005-7894(71)80064-3.

Slingerland, Edward, and Mark Collard, eds. 2012. *Creating Consilience: Integrating the Sciences and the Humanities*. New York: Oxford University Press.

Snow, Charles P. 2012. *The Two Cultures* (Reissue edition). Cambridge: Cambridge University Press.

Steen, Francis F., and Stephanie A. Owens. 2001. "Evolution's Pedagogy: An Adaptationist Model of Pretense and Entertainment." *Journal of Cognition and Culture* 1 (4): 289-321. doi:10.1163/156853701753678305.

Tomasello, Michael, Malinda Carpenter, Josep Call, Tanya Behne, and Henrike Moll. 2005. "Understanding and Sharing Intentions: The Origins of Cultural Cognition." *Behavioral and Brain Sciences* 28 (5): 675-691. doi:10.1017/S0140525X05000129.

Tosca, Susana. 2014. "*Amnesia: The Dark Descent:* The Player's Very Own Purgatory." In *Analyzing Digital Fiction*, edited by Alice Bell, Astrid Ennslin, and Hans K. Rustad, 109-123. London: Routledge.

Wilson, Edward O. 1998. *Consilience: The Unity of Knowledge*. New York: Knopf.

Öhman, Arne. 2008. "Fear and Anxiety: Overlaps and Dissociations." In *Handbook of Emotions* (3rd ed.), edited by Michael Lewis, Jeanette M. Haviland-Jones, and Lisa F. Barrett, 709-729. New York: Guilford Press.

Öhman, Arne, and Susan Mineka. 2001. "Fears, Phobias, and Preparedness: Toward an Evolved Module of Fear and Fear Learning." *Psychological Review* 108 (3): 483-522. doi:10.1037//0033-295X.108.3.483.

Liberating methodological thinking in human sciences from grand theories

Nikita A. Kharlamov is an associate professor of psychology at Aalborg University. He specializes in natural setting perception and the role of culture in complex perceptual processes.

Einar Baldvin Baldursson is an associate professor of psychology at Aalborg University. He specializes in the clinical application of social psychology.

Abstract

Many humanistic and social disciplines are naturally inclined to seek for human-, person-, self- centered focus, and develop a holistic theory of such. Such disciplines continually engage with philosophical, metaphysical and meta-theoretical perspectives. This engagement often leads to a singular focus on the necessity of a "grand unified theory" at the expense of any and all alternative perspectives. Properties of grand theories are discussed on the examples of Giddens and Bourdieu. It is argued that grand theories hamper a more productive focus on concrete phenomena. Robert Merton's focus on "middle range" theories is revisited and its continuing relevance is highlighted. The level of abstraction characteristic of such theories, as well as the way they engage with the empirical social reality, are discussed. The article concludes by considering the paradoxical reductionism that can be observed in presumably the most anti-reductionist grand theories.

Keywords Grand theory, methods, middle range theory, phenomenology, social psychology

The perennial quest of the humanities and the social sciences is to understand what has alternately been called the soul or the mind, and to figure out what it means to be human and to live in a social universe. In the seventeenth century, Descartes had conveniently dissociated the mind and the body, opening the way to scientifically studying human biology and physiology while preserving the religiously-coveted metaphysical status of the soul. With the advent of materialism, Cartesian dualism has come under fire, while the question has been eventually refashioned in terms of understanding the human brain. Today, in the age of neuroscience, scientists often quip that the ultimate challenge for the human brain is to understand itself. Does it mean, however, that the outcome of these efforts is necessarily a grand unified theory of everything human?

We argue that the succession of grand theories (GT) in the social, psychological, and behavioral sciences is not progressive, does not inspire critical debates, and has not been able to advance empirical research. Conversely, many GTs have shown marked antipathy to data. As an alternative, drawing on examples from social psychology, we propose to revisit Robert Merton's concept of theories of the middle range (MRT) that focus on empirically accessible phenomena.

The world according to grand theories

A classic description of the relation between research and theory assumes that the process starts with some kind of philosophical ontological commitment, and moves from there to theory. Theory then deductively moves to research design. Late twentieth century has seen a resurgence of grand paradigms in humanities such as Foucauldian poststructuralism and Gadamerian hermeneutics (Skinner 1990) that claimed a split from the natural sciences and posited overarching schemes aimed at understanding individual facts and events in their terms.

A true GT focuses on the logical and conceptual relation between the theoretical postulates, models or logical abstractions, that are accorded an essential role within its universe. GTs see the world as an expression of interconnected "grand structures" perceived and understood through theoretical thinking. A field characterized by fragmented theoretical propositions must be immature and possibly in crisis. Since research is seen as inherently deductive, a pur-

ported theoretical crisis can only be addressed through more theory. The epistemic status of GTs is often construed as privileged, which is to say, a GT does not commonly contain any clearly defined independent truth criterion. At best, many such theories implicitly adhere to a "coherence" theory of truth, that is, incorporate statements that associate with other statements already contained in a theory. In practice, this means that true GT can never be rejected on empirical grounds alone. On the rare occasions where GTs propose predictions, failures tend to be seen to stem from imperfectness of evidence. Under this view a true GT generates understanding, illuminations and insights, an approach to the world, a method to seek and find sense and accommodate new phenomena within a totality of a theoretical narrative.

Case study: Giddens and Bourdieu

A case study in how GTs operate is offered by two well-known theories of society commonly taught as required part of bachelor curricula in humanities and in psychology, including in Denmark. Both purport to explain the nature of social relationships, the role of the individual, and the degree of individual freedom.

Anthony Giddens (1984) proposed the so-called structuration theory, postulating a duality of social structure and individual agency. He himself emphasized that his theory "will not be of much value if it does not help to illuminate problems of empirical research" (Giddens 1984, xxix). Yet, as Gregson (1989) observed, structuration theory failed to provide either workable guidelines or empirically-relevant concepts. The best response to Gregson's critique seems to be that the theory can work as a "'sensitizing device' that encourages researchers to take human consciousness and everyday life seriously" (Warf 2011, 183). Tellingly, Giddens's own recent work on climate change (Giddens 2011) proceeds without as much as a passing mention of structuration.

While Giddens tried to salvage limited freedom of action, Pierre Bourdieu aimed at showing the ultimate dependence of the individual on the social position they occupy, for example in the form of his famous study of reproduction (Bourdieu and Passeron 1990). Yet he soon produced a GT of his own, and in his debates with critics he accused them of an "epistemology of resentment" which allows its advocates to "prohibit others from doing what they them-

selves are unable to do, so that they can impose their own limits on others" (Bourdieu 1990, 35). This defensiveness has not been unique to Bourdieu, of course, but it shows clearly the kind of conundrum that grand theorizing faces with respect to evaluation of its validity.

Interestingly enough, the advent of postmodernism and its critique of "grand narratives" (Lyotard 1984) has, rather than toning down grand theorizing, led to an even broader explosion of theoretical work on themes like deconstruction and discourse. Indeed, judging by back covers of countless books, one consequence of postmodern liberation of thought from systematic structures of rationality and logic seems to have been that any conceptual combination could now claim the status of a radically new approach to any domain of reality, with an arbitrarily postulated scope and ambition. But does the blooming of a thousand theoretical flowers actually represent advancement of science, and especially science oriented at concrete empirical phenomena?

Theories of the middle range and the empirical challenge

Robert K. Merton (1968) has proposed the idea of theories of the middle range. This idea originated in understanding that grand theories are not necessarily wrong or misleading so much as potentially premature. While Merton longed for direct confrontation between grand theories in sociology and social psychology, he suspected that currently possible theories suffer from a great divide between theoretical arguments and questions that realistically can be answered through actual and possible research. To promote the latter, Merton identified theories that involve sets of ideas and concepts that neither are as abstract as GTs, nor as specific as individual empirical research protocols. Their main purpose is to connect empirical endeavors across a number of different research contexts using logical and conceptual abstractions or models. As Merton noted, such connection is akin to "the same modest and limited development of ideas which occurred in the early modern period of other sciences, from natural history to chemistry and physics" (Merton 1957, 108). Merton saw MRTs as the middle way between the hasty progression of GTs from a limited number of abstract concept to arcane networks of theoretical statements (the kind witnessed, for instance, in the debates on structuration theory), and the theoretically low-level accumulation of individual empirical records and hypotheses.

The empirical challenge presents the counterpart to theoretical proliferation especially in the domain of quickly emerging and changing methods. In psychology and brain sciences this has become especially evident since 1990s, with the advent of modern methods of brain scanning (such as functional magnetic resonance imaging, fMRI) as well as the mass accessibility of computational power necessary for analyzing data from already known methods such as electroencephalography (EEG). 2010s have likely added a further democratization of analytic expertise and skills in that computer analysis of quantitative and qualitative data. What previously required expensive software (such as IBM SPSS) and specialized training can now be mounted on end-user machines using free programming environments like R and Python, which come with inexhaustible supply of Internet-based documentation, training, and expert community advice. Furthermore, the social and behavioral sciences in 2010s are seeing an explosion of interest in the so-called Big Data, which essentially means applying exploratory statistics and machine learning algorithms to all sorts of data about human behavior that gets automatically collected during routine activities of the "Internet of Things." Examples of such "naturally occurring behavioral data" (to extend a term often used in some strands of qualitative research, e.g. by Silverman 2013) include public Twitter feeds and municipal statistics made public by many local governments across the world (e.g., by the city of Aarhus in Denmark – http://www.smartaarhus.eu/projects/open-data-aarhus). Even more naturally occurring data is available to commercial agents such as retail corporations that collect consumer data. This proliferation blurs the traditional distinctions between discipline-specific kinds of data (e.g., the claims of psychology to psychometric tests or the claims of neuroscience to EEG), and underscores the necessity of middle range theories to address the quickly changing landscape of empirical research.

Contrary to what the adherents of grand theorizing generally presuppose, much of scientific innovation has in the past century been primarily driven by methodological breakthroughs rather than by creating new GTs. Thus, Greenwald (2012) has observed that most Nobel Prizes in the sciences have been awarded for essentially methodological advances. He contends that quite a number of very ambitious theoretical controversies in cognitive and social psychol-

ogy, such as the debate between rationalistic and heuristic models of reasoning, have either never been resolved, or, as happened to a minority of them, have shown signs of resolution primarily due to methodological and research-technological solutions. For example, according to Greenwald (2012, 105), brain scanning was essential in supporting a multiple systems account of mental categorization. This represents a productive interplay between empirical experiments and theories of the middle range that apply to a particular domain of cognition, rather than a top-down resolution by a grand theoretical schema. In terms of White and Poldrack, this is an example of different models of cognitive processes producing a behavioral mimicry, that is, the state where "the same data can be produced by each type of model" (White and Poldrack 2013, 79). They note that the function of brain imaging in this case is that of *constraining* theoretical models and provide differential support for them.

A proper theory of the middle range has the ability to combine what on the surface seems to be different empirical phenomena. This produces an account of a concrete domain of human behavior or function on a particular scale. One well-known example of MRT in social psychology is the role-set theory. According to Merton,

> "Role-set theory begins with the concept that each social status involves not a single associated role, but an array of roles. This feature of social structure gives rise to the concept of role-set: that complement of social relationships in which persons are involved simply because they occupy a particular social status." (Merton 1968, 42)

Without engaging in broad debates about the nature of social structure or the relationship between structure and agency, role-set theory was able to put together findings in several areas of workplace research. MRTs thus work as a kind of guide for the design and interpretation research in social science, humanities and last but not least, psychology.

Abstraction as a tool of the middle range

MRTs proceed by using relatively limited conceptual abstractions across a select number of empirical domains. Pawson (2013) discussed this procedure at length, and it is worth recapping here. The

key to abstraction is integrating key features of a phenomenon across a number of occurrences. Abstractions of the middle level enable us to identify and understand specific occurrences as an expression of a more general instance. In doing so, we subscribe to a kind of middle-range conceptual realism: we attempt to go beyond pure association, or clustering, of observable features, to arrive at domain-applicable concepts that differentiate between broad classes of phenomena. Importantly, these allow inclusion as well as exclusion of superficially similar occurrences.

An example of such procedure is differentiating between three classic middle-range social-psychological theories: social identity (Tajfel and Turner 1986), social comparison (Festinger 1954), and reference group (Hyman 1942). All three theories operate in the domain of judgments and evaluations that people make of one another in social contexts. Social identity theory places primacy on the individual's belonging to and identifying with a particular group (e.g., ethnic group), giving rise to the in-group favoritism. Social comparison underscores the processes of comparing oneself with others along particular dimensions (e.g., monetary wealth). Reference group theory prioritizes distinct groups (such as local cultural elites for a newcomer) in relation to which an individual shapes their attitudes, values, and self-appraisals.

It may very well be the case that all three types of phenomena are expressions of one basic process. But on the middle range, a strong case can be made that the three theories describe distinct "modules," sensitive for different inputs and influencing distinct and separate forms of social behavior. If this is correct, then a deeper focus on the specific applicability of these three "modules" and the differences between them across specific empirical fields is likely to be more scientifically insightful and pragmatically useful than an attempt to construe a GT unifying them all.

Practical principles of middle range theories

Following Merton (1968) and Pawson (2009; 2010; 2013), we suggest that three principles govern development and application of middle range theories.

1: Sufficient level of abstraction

According to Merton (1967, 68), one criteria of useful MRTs is that they are "sufficiently abstract... to transcend sheer description or empirical generalization." Good empirical research typically produces a multitude of details and descriptions that need to be reconstructed through abstractions or models that maintain transparent connection with data. Each MRT identifies phenomena the generality of which, however, are limited to a particular empirical domain and scale. It also provides explanations that hold within the specific domain or set of domains, without necessarily purporting to provide universal explanations valid for spatial and temporal scales, levels of organization, and historical periods of human activity. Social identity, social comparison, and reference group theories are all limited to the domain of interpersonal and group evaluations and judgments, and to the scale of higher mental processes (evaluations and judgments) and person-group processes.

Empirical and theoretical maturation in a particular research field is brought about through (a) development and application of specific MRTs; (b) identification of their limits and specification of explanatory powers; (c) emergence of a set of MRTs that provide a number of distinct perspectives on the chosen domain and (d) finally MRTs whose primary role is to capture or model phenomena, that subsequently are integrated intro higher level MRTs. The does not mean that the MRT-perspective entitles a relativist epistemology: middle range theories typically share similar explanatory domains and scales and vary in particular "inputs," "outputs," and theorized mechanisms and observed patterns. Thus, it is incorrect to say that a particular empirical field (such as "Janteloven – the unspoken rules of interpersonal behavior and evaluation – in Danish corporate environments") can be described through an open range of perspectives. Rather, a particular MRT out of a set is best applicable to this field. This means that MRTs are at the same time closely tied to empirical investigations and phenomena, and can neither be owned by, nor be particular to any specific GT. Instead we should expect multitudes of MRTs, each a "tool" developed for particular purposes, and often used in combination with other such tools.

Merton himself was vague about what constitutes the ideal level of abstraction. We suggest that this vagueness is necessary to prevent dogmatic codification of this approach. Merton himself more

than anything wanted to avoid conceptual systems that aspire to totality, so abstract as to be seemingly able to encompass every kind of process and behavior, without really explaining anything at all.

2: Transparent deduction

Merton writes that middle range theories "consist of limited sets of assumptions from which specific hypotheses are logically derived and confirmed by empirical investigation" (Merton 1968, 68). He thus pinpoints both the manner in which a theory of the middle range is constructed, and the core feature of such theories.

Firstly, such theories must consist of a set of clear propositions. Secondly, MRTs focus on empirical patterns. Patterns are neither laws nor impeccable empirical regularities. Empirical regularities in the social world are inherently fuzzy, and even the strongest pattern will sometimes be conspicuously absent. Sometimes even an exception might prove the rule. However, theoretically valid empirical regularities should be transparently deductible from middle range assumptions and propositions. Subsequently prediction can be produced "which is more secure than mere empirical extrapolation from previously observed trends" (Merton 1968, 152).

3: Adaptive confrontation with explanatory failure

Any scientific claim that something might be true also accepts that it might be false. Thus, it should be possible to test middle range theories, and they should be able to fail. "The middle range orientation involves the specification of ignorance. Rather than pretend to knowledge where in fact it is absent, it expressly recognizes what still must be learned in order to lay the foundations for still more knowledge." (Merton 1968, 68). While most GTs claim to adhere to some kind of falsifiability, they, as we have seen above with Bourdieu, tend to reject empirical criticism. MRTs attempt to explain empirical patterns that are dynamic, flexible and mutable. Over time any research based on theories of the middle range will accumulate empirical anomalies. For MRTs, the most productive strategy is modification and adaptation, so that the new versions accommodate empirical anomalies and confront these anomalies with new methods and techniques. For example, in this fashion behavioral mimicry was first identified in the domain of mental categori-

zation, and then resolved with an entirely new class of methods (Greenwald 2012; White and Poldrack 2013).

Conclusion

Grand theories are unquestionably appealing for the theoreticians, not least for the prospect of the associated fame, and for the general public, not least for the shock value and grandeur associated with the next profound explanation of the mysteries of humanity. However, it appears that thus far middle range theories have had a far better survival chance than grand theories. Even GTs survive best when "demoted" to MRT level: thus, Bourdieu's "reproduction" seems to work best in education studies, after being formally specified to focus narrowly on the "different mechanisms through which [measurable] cultural capital leads to [measurable] educational and socioeconomic success" (Jæger and Breen 2016, 1081).

Perhaps the biggest paradox in GT development is the oft-stated fear of reductionism (for instance, "reductionism of the psyche to brain processes" is a favorite argument in many humanistic psychologies). Yet ironically, the grandeur of GT claims often results in nothing less than reductionism to the grandest possible level – a fate suffered, for instance, by phenomenology which attempted to place a (conscious) subject in the center of human existence. This thinking subject is typically assumed to have (perhaps with some training in phenomenological introspection) complete and privileged access to the content of their own holistic and indivisible consciousness. Critical examination of phenomenology, however, has shown that consciousness is famously murky and subjects don't seem to have a clear idea even about the basic qualia such as the color of their dreams (Schwitzgebel 2011), while decades of neuropsychological research have shown how entire swaths of consciousness can be altered or destroyed by brain damage. It turned out that the mind cannot be effectively reduced to classical phenomenological subject.

Perhaps eventually humanity will arrive at a unified theory of human mind, social interactions, and society, just as it has seemingly zeroed in on the basics of physics (though even in physics the unified field theory, for instance, is still out of reach). For the time being, we suggest that human sciences would be well served by suspending their fascination with grand schemas and by engaging

in middle range theorizing in tight connection with exciting new methods and new and established empirical fields. For many scientists (as the authors of this article have learned), this might be a truly liberating experience.

References

Bourdieu, Pierre. 1990. *In Other Words: Essays Towards a Reflexive Sociology*. Translated by Matthew Adamson. Stanford: Stanford University Press.

Bourdieu, Pierre, and Jean-Claude Passeron. 1990. *Reproduction in Education, Society and Culture.* Second Edition. Translated by Richard Nice. Los Angeles: SAGE.

Festinger, Leon. 1954. "A Theory of Social Comparison Processes." *Human Relations* 7: 117-140.

Giddens, Anthony. 1984. *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity.

Giddens, Anthony. 2011. *The Politics of Climate Change.* Second Edition. Cambridge: Polity.

Greenwald, Anthony G. 2012. "There is Nothing so Theoretical as a Good Method." *Perspectives on Psychological Science* 7: 99-108.

Gregson, Nicky. 1989. "On the (Ir)relevance of Structuration Theory to Empirical Research." In *Social Theory of Modern Societies: Anthony Giddens and His Critics*, edited by David Held and John B. Thompson, 185-214. Cambridge: Cambridge University Press.

Hyman, Herbert H. 1942. "The Psychology of Status." *Archives of Psychology* 269: 1-94.

Jæger, Mads M., and Richard Breen. 2016. "A Dynamic Model of Cultural Reproduction." *American Journal of Sociology* 121: 1079-1115.

Lyotard, Jean-Francois. 1984. *The Postmodern Condition: A Report on Knowledge*. Translated by Geoffrey Bennington and Brian Massumi. Manchester: Manchester University Press.

Merton, Robert K. 1957. "The Role-Set: Problems in Sociological Theory." *British journal of Sociology* 8:106-120.

Merton, Robert K. 1968. *Social Theory and Social Structure. 1968 Enlarged Edition.* New York: Free Press.

Pawson, Ray. 2009. "On the Shoulders of Merton: Boudon as the Modern Guardian of Middle-Range Theory." In *Raymond Bou-*

don: A Life in Sociology. Volume 3, edited by Mohamed Cherkaoui and Peter Hamilton, 317-334. Oxford: Bardwell Press.

Pawson, Ray. (2010). "Middle Range Theory and Program Theory Evaluation: From Provenance to Practice." In *Mind the Gap: Perspectives on Policy Evaluation and the Social Sciences*, edited by Jos Vaessen and Frans L. Leeuw, 171-202. New Brunswick: Transaction Publishers.

Pawson, Ray. 2013. *The Science of Evaluation: A Realist Manifesto*. Los Angeles: SAGE.

Schwitzgebel, Eric. 2011. *Perplexities of Consciousness*. Cambridge: The MIT Press.

Skinner, Quentin. 1985. "Introduction: The Return of Grand Theory." In *The Return of Grand Theory in the Human Sciences*, edited by Quentin Skinner, 1-20. Cambridge: Cambridge University Press.

Silverman, David. 2013. *A Very Short, Fairly Interesting and Reasonably Cheap Book About Qualitative Research*. Second Edition. Los Angeles: SAGE.

Tajfel, Henry, and John C. Turner. 1986. "The Social Identity Theory of Intergroup Behavior." In *The Social Psychology of Intergroup Relations*, edited by William G. Austin and Stephen Worchel, 7-24. Monterey: Brooks/Cole.

Warf, Barney. 2011. "Anthony Giddens." In *Key Thinkers on Space and Place*. Second Edition, edited by Phil Hubbard and Rob Kitchin, 178-184. Los Angeles: SAGE.

White, Corey N., and Russell A. Poldrack. 2013. "Using fMRI to Constrain Theories of Cognition." *Perspectives on Psychological Science* 8:79-83.

Opening up the Humanities

Camping Women as a Humanities exploratorium
(essay)

Lone Dirckinck-Holmfeld *is a professor of information and communication technology and learning. Her research interest lies in how technologies are used for learning. She is the former Dean of the Faculty of Humanities at Aalborg University.*

Abstract

Despite humanistic knowledge and methods are vital in many relationships and societal contexts, humanities are struggling to get its messages out. This article addresses the development of new and engaging ways of opening up the humanities by investigating how art can serve as an experiential humanities exploratorium. The article probes how a concrete project, *Camping Women*, becomes a boundary object which bridges across people, art and humanities communities. The findings from the study confirm that this kind of art works well as a boundary object in ways of knowing, sensing, reflecting and doing, and offers new features to serve as a humanities exploratorium and engage volunteers to reach out to the public.

Keywords *Camping Women*, boundary objects, humanities exploratorium, the art of driving

Setting the scene

On an ordinary Sunday in August 2015, we drove on the major road that connects Århus to Viborg (Denmark). Each time we would pass by a flock of pasturing horses, the horses would stop and then prance after us with

great enthusiasm. What was it with our set up – the group of five cars driving at the pace of 30 km per hour – that caused such great eagerness from our mammal spectators? Our convoy was driving the "Camping Women," which is a series of large scale concrete sculptures of women converted from old discarded camping-caravans – each one with its own specific feature – made by the Norwegian artist Benthe Norheim. But besides the odd aesthetics of five giant women driving in the dull landscape, why would the horses take such interest? I was driving alone with my preferred camping woman, the siren. Normally, we would be two in the car: a driver and a co-driver. However, this time I was alone. It was me and the women. I kept glancing at her in the rear mirror while, at the same time, looking ahead for any obstacles in the road. Every time we went beneath an overpass, I found myself ducking my head as if we would hit it. But it wasn't only the horses that were welcoming us with great enthusiasm. Pedestrians stopped to look at us as well, many of them grabbing their cell phones and taking photos; they were all smiling and waving. Also, the drivers in the other cars were smiling. Some seemed to be a little worried going 30 km per hour; however, when they passed us, we got an obliging smile. The sun was also with us that day. The sky was blue, and the corn was yellow, ripe and ready for harvesting. The colours reflected in the concrete, which become golden. The convoy was driving slowly. I had driven this road many times as a kid, and memories started to pop up, along with details that I had never been aware of. The landscape held many nuances. Very well off farm houses were mixed in with "sleeping villages." Some of them looked as if they were dying, while others looked healthy and in vigour.

The reaction from the audience – the horses, the people and (not least) my co-drivers in the caravan – and the slow pace of our movement caused me to ponder: what does this kind of art do to knowledge creation? How does this art installation afford experiences and reflections, and how does this art practice build new connections and bridges between the university and the public, between art and humanities?

The problem to investigate

In this edition of *Academic Quarter*, the paradox challenging humanities is well described. On one hand, humanities are perceived as useful, concentrating on the study of academic areas connected to

our existence and behaviours as social beings. On the other hand, the legitimacy of the arts and humanities, the value of their contribution to society and their economic impact are questioned (Danmarks Forskningspolitiske Råd 2010). In the latter case, it is not obvious why the arts and humanities should continue to educate so many candidates, nor is it obvious how those candidates and their research contribute to solving global societal problems. I address this paradox in particular by focussing on how humanities can find new ways of reaching out to the public and being part of the public sphere or civil society. As such, I am especially concerned with how interactive art forms can be used to facilitate this process.

This interest was inspired by the discussions brought forward by a humanist think-tank at the Faculty of Humanities at Copenhagen University. One of the issues under discussion was why the humanities are struggling to find sympathy. One argument put forward was that the humanities are suffering from closing in on themselves and focussing too much on heavy philosophical constructs; in other words, the humanities exclude more than include (Hede 2010, 11). Humanities as an institution and the human sciences as a field of research should open up and make itself more visible to the outside world. In particular, the humanities should work to strengthen their popular profile by finding new "languages" for reaching out. One of the suggestions from this think-thank was to make the humanities more visible by developing a kind of humanistic exploratorium – an arts and humanities exhibition centre which presents humanistic knowledge in all variations and nuances for children and adults, and which points at the ludic aspects of humanistic educational programmes and research (Hede 2010, 23).

I will use this article to explore and reflect on a specific case, which may serve as a kind of humanistic exploratorium and a new "language" for reaching out and opening up the humanities to the public and civil society. The method applied is a case study of an interactive art installation titled *Camping Women* (Norheim 2008). Using a combination of autoethnography (Baarts 2010) and qualitative studies (Kvale and Brinkmann 2015), the article provides insight into how this art installation serves as a humanistic exploratorium.

To explore how the art installation functions as an exploratorium, the concept of boundary objects is notably useful. Sociologist Susan Leigh Star and Professor of Philosophy James Griesemer coined the

term "boundary objects" to describe "those scientific objects which both inhabit several intersecting social worlds … *and* satisfy the informational requirements of each of them" (Star and Griesemer 1989, 393, emphasis in original). The concept of boundary objects was originally developed to understand the coordination of amateurs, professionals and researchers working together on data collection within the discipline of institutional ecology. However, since Star and Griesemer's (1989) seminal article, among others, Wenger (1998, 106) has used it in a broader sense as a concept to describe the process where an object serves to coordinate the perspectives of various constituencies for some purpose.

Camping Women as a humanistic exploratorium

Camping Women is an interactive, mobile art installation made by Norwegian-born artist Marit Benthe Norheim, situated in Mygdal. It can be driven as a series of regular caravans, however, only at a speed limit of 30 km per hour. In 2013, the Faculty of Humanities at Aalborg University bought the installation with support from the Obel Family Foundation and the Art Foundation, Municipality of Aalborg.

In the following section, I will draw on the art appreciation for *Camping Women* expressed by Adjunct Professor and Rector Emeritus at the Royal Danish Academy of Fine Art, (Bukdahl 2013):

> "In connection with the European Capital of Culture, Stavanger in 2008, the artist, Marit Benthe Norheim surprised us once again and drew us into her magic circle. With her "eagle eye," she found up to five worn caravans. With a sure and sensitive hand, she transformed them into moving sculptures of women of great strength and originality. Their skirts cover the caravan, while they themselves stand out on the roof in both a visible and expression-saturated way. You experience them as monumental women who are headed out into the urban environment and nature. They appear as a rolling installation, full of surprise elements. The female figures are modelled in gleaming white concrete. They show that Marit Benthe Norheim has a rare ability to reshape and transform the concrete so that it can express the humanity and the protection against life-

destructive forces that she is eager to interpret. The Norwegian art historian Trond Borgen has rightly noted that "Norheim uses the body as a symbol and metaphor for universal human emotions, experiences and attitudes." Inside the carriages, there are sculptures, reliefs and photographs. You also hear music edited and created by composer Geir Johnson, which makes the themes that Camping Women represent stand out in an even more intense way. "Camping Women," therefore, appeals not only to sight, thought and imagination but also to hearing (…)

The Refugee is a proud and vulnerable female figure who looks into an uncertain future…The Siren features a contemporary sculptural interpretation of the seductive siren from Greek mythology that lures sailors to her and then lets them suffer shipwreck…The Bride has great erotic charisma, but all the wedding pictures that are inside of the caravan show differences in the perceptions of marriage and point to several places indirectly to show the often difficult conditions that a bride comes to live under. Camping Mama is great and caring but also symbolizes the short-sightedness – indeed, the almost suffocating atmosphere – that the petty-bourgeois life can hold.(...) (Bukdahl 2013, 6 translation by author).

Fig 1. Camping Women. Fotograf er Niels Fabæk.

Crossing boundaries and bridging new communities

Since its inauguration in 2013, *Camping Women* has been part of various activities. It has operated as an object for media aesthetics and media criticism courses, for courses in art and technology, in research seminars addressing mobility, diversity, feminism and learning and in design courses using the artwork as a shared point of reflection. These activities have also paved the way for a close collaboration and sharing of perspectives with the artist, Benthe Norheim.

One of the more surprising activities was when *Camping Women* was used as a space and new context for philosophical dialogues and investigations. These activities were organised by Professor Antje Gimmler as part of the applied philosophy programme at Aalborg University. On one hand, she and her students wanted to obtain empirical knowledge about how people experience space – in this case, a very special aesthetic space. On the other hand, they wanted to examine how philosophers could use empirical research to learn more about theoretical concepts. The occasion was the science festival, European Open Science Forum, held in Copenhagen in June 2014. In their artistic appearance, the five *Camping Women* differed quite substantially from the other, more science-oriented exhibits and presentations, but attracted many visitors to interact with the art installation. Antje Gimmler and her students described it as follows:

> "That it is an artistic space opens up different experiences at the same time: all the senses are stimulated in experiencing the five *Camping Women*, which represent different life situations. One can almost say that we perceive *Camping Women* as a laboratory where we can control all the sensations and stimuli that the visitors are exposed to. Critically, one can argue that in terms of our research interest in how people concretely experience the space and the role the elements play in the experience of a space, *Camping Women* is not representative of the way to experience a space, because it simply is not an ordinary space. However, as argued by Flyvbjerg (2011), an extreme case can produce more knowledge about a particular context precisely because it offers several variations and allows

for multiple interactions. We therefore assume that with *Camping Women* we can examine which elements are at play when people experience a space." (Gimmler, Nielsen, and Platon-Rødsgaard Forthcoming, 4)

Furthermore, *Camping Women* has brought about new relationships and interactions between researchers, users of art, artists (not least the artist, Benthe Norheim), volunteers and stakeholders. The installation speaks to many different groups and communities. It has been taken to museums to mark special events and has been part of cultural festivals, such as Images Festival and *Kulturmødet på Mors*. Moreover, it has become an event marker, for instance, at *Kirkedagene* in Aalborg and the inauguration of the artwork *Kildegrotten* in Søndermarken. In between, the art installation has been exhibited on the main campus of Aalborg University and at Aalborg University, Copenhagen, which are their regular home.

Its design for mobility promotes moving the art installation around and reaching out to the public where people congregate. To move *Camping Women*, the organisation borrowing it must provide volunteers and cars to drive the installation. Seen from the artist's point of view, driving *Camping Women* is an important aesthetic experience of the artwork; however, it also provides a new venue for collaboration and interacting with groups outside the university. In the following, I will look closer at this collaboration and the art of driving *Camping Women*.

The drive took place this past summer (August 2015), when *Camping Women* returned from Rønnesbækholm and the centennial celebration of women's right to vote. When we drove back to Aalborg University in Aalborg, I asked my co-drivers to help me reflect on their experiences with *Camping Women* and what it meant for them to participate in the journey. Some of the drivers and co-drivers were connected to Rønnesbækholm's Circle of Friends, a group of art-enthusiast volunteers, while others were not connected to the art world or to the humanities; yet all of them knew each other and had participated in driving *Camping Women* previously, from Aalborg University in Copenhagen to Rønnesbækholm. In addition to serving as a researcher conducting interviews and acting as a kind of representative for the university, my role was to drive. In her article on autoethnography, Baarts (2010) distinguishes between re-

searchers who are full members of the community and "anchored participants" (my translation). She describes "anchored participation" as a process where the researcher increasingly is integrated into the group and identifies her/himself with the community, and thereby becomes a full participant in the phenomenon under study. I find this to be a useful way of describing my role and the process of becoming a member of the drive and co-driver community. It was not my first time driving *Camping Women*; therefore, in a sense, I was not a newcomer, but it was my first time driving with the group from Rønnesbækholm.

To assist in the ethnographic exploration, I asked the drivers and co-drivers to write and reflect on their experiences while driving. I had prepared a written interview guide to prompt their description and reflections on their experiences, which I gave to the participants when we were half-way through our journey (on-board the ferry). At this point, I also explained my interest in doing this research. There were five drivers (men) and five co-drivers (women), including a following car. I got six reports back (two from women and four from men), and all cars were represented. Afterwards, I analysed these written reports following Kvale and Brinkman's (2015) guidelines for qualitative interviews building on a hermeneutic reading. First, I performed open coding to identify the themes relating to the experiences of driving and a condensation of meaning, followed by a close reading and analysis. In the reporting, I am also inspired by Kvale and Brinkmann (2015), who warn against boring reports, characterised by long, heavy and verbatim quotes. Yet I chose to let the participants' ways of presenting their reflections become the backbone of the story, as the participants' formulations provide multifaceted insight into the experience and the motivation to drive. I focus on the following themes: the motivations for driving, *Camping Women* as an artwork, opening up the humanities and the social aspects of travelling. In the following, I will present a summary of the analysis. The numbers in the brackets refer to the interviewee and the thematic coding.

Summary of the analysis
The motivation for driving is integrated with the aesthetics of the art experience and the reception of the art by the bystanders: "It's so fascinating to see the reactions from the bystanders. First, people

gawk at us. Next, they start smiling. I also observed that we didn't get any negative reactions from the other car drivers whom we bothered with our slow driving. They were all occupied with looking at the 'women'" (4, 2). Moreover, the drivers were fascinated by the artist and her "crazy" artwork, and driving them became a way to form a stronger link to the artist and become a kind of broker: "People we meet are really interested. They wave their hands to ask to know more about the 'ladies' – how they have come into existence and their various 'journeys'" (1, 2). The drivers and co-drivers also expressed their engagement with *Camping Women* as a work of art. They found that the art expressed "strong, beautiful and proud women, each of them carrying a specific message." The camping woman representing the refugee resulted in discussions on the actual and difficult situations of refugees. However, it was not only the messages of the installation that engaged the drivers and co-drivers; it was also the materiality of the art. Some found "the loony idea of reusing camping caravans to get around to be genius." For others, the contrast of using concrete to form archetypical women figures was fascinating. Moreover, that the installations looked like sand figures evoked questions from bystanders "on how to move around with sand sculptures." When people got close and realised that it was concrete, they were even more amazed.

I also took the opportunity to ask the drivers and co-drivers about how they looked at the university and the Faculty of Humanities investing in this kind of artwork. They unreservedly supported the idea and took it as an example of opening up the university and the research to the surrounding society. They acknowledged the mobility of the sculptures allowing the university to get them out to where people are. They expressed this relation in various ways: "It [*Camping Women*] shows that the field of humanities is not afraid of opening up to the surrounding world and engaging in new kinds of projects" (2, 12); "it shows that the faculty is open to the world outside the university" (3, 12); "[the university] wants to provide insight to the citizens about some of the activities within the university" (4, 12); and "break new ground in research" (5, 12). They also provided more ideas on how *Camping Women* could further contribute to the opening up of the humanities. Examples of these ideas are that "the humanities at AAU contribute with their expertise, eventually establishing a brand of the university in South Zealand" (2,

13), "lectures and courses in the smaller towns taking the point of departure in humanities issues related to *Camping Women*" (3, 13), "the use of *Camping Women* to make journeys with the students – short stops, which have been announced beforehand – so that people get a chance to participate and, preferably, more shows per day" (5, 13), "and also bring the students on a tour to observe the reaction from the spectators and bystanders" (6, 13). Thus, the drivers and co-drivers supported continuing to use the installation as a marker of activities and as an exploratorium. Other ideas included getting the installation onto the roads of Europe (2, 14) to bring an international perspective to the questions and dialogues which *Camping Women* provokes (1, 14).

Finally, the social aspect of driving the sculptures was addressed, as was the prompting of memories, which was also addressed in the introduction: "[I enjoy] being together with friends when we are travelling with the 'ladies', and have a good laugh when I think back on these journeys" (4, 15). Another driver said that the experience of driving the art installation fills him with good memories of camping and holidays at camping sites (2, 3).

Discussion

How do we interpret these quotes? One can maintain that the humanities have always dealt with the surrounding world and also empirically investigated it; thus, what does *Camping Women* add to this that is new? Applying the concept of boundary objects provides insight into what it takes to communicate and bridge between communities. Communities engage with *Camping Women* as participants in different ways, and they come together and use this as a starting point for collaboration. The art installation is apparently so "plastic and spacious" that it can combine many different interests and commitments and facilitate a variety of activities. It makes humanities visible and facilitates the communication and coordination work across boundaries.

Thus, driving *Camping Women* becomes an activity, which goes beyond simple transportation. It becomes a means to feel for and engage with the art installation, and an active way of exploring art and creating ownership of the artwork through the experience of meeting spectators and bystanders, through tinkering with the caravans and driving. Moreover, it enables the volunteers to get in

contact with the university and start to build relationships and thereby indirectly contribute to the dialogue about the usefulness of humanities.

What I find especially interesting with regard to *Camping Women* as a humanities exploratorium is that the installation not only speaks to the art and media academic researchers and students but also to the classical humanities. In a time when the focus is on virtuality and new media, it is noteworthy that a robust and concrete artefact can also serve as a context for classical academic reflections. Here, I am pointing to *Camping Women* as an immersed setting for dialogues on philosophical reflections. From an interdisciplinary perspective, *Camping Women* bridges between different humanities disciplines and serves as a boundary object internally at the university. *Camping Women* is a shared object which has been worked *on* and *in* from many different angles, and thereby bridges across the humanities disciplines which often live side by side.

As the drivers and co-drivers also stated, *Camping Women* as a mobile exploratorium has also contributed to opening up the humanities to the public – because of its mobility it has got out in the public space, where people are. However, using art or artistic methods to reach out to new social worlds is not a new phenomenon. Some examples from the literature are where art has been used as a boundary object for communicating indigenous knowledge and values, or in a project where an invited artist and scientist worked together in a performance to popularize scientific knowledge (Halpern 2012). However, *Camping Women* as an exploratorium is different in at least two ways. It is already an installation designed by the artist which is used as a boundary object between researcher(s), students and other participants to enable research into humanities questions. Furthermore, because of its mobility, it can get venture into public or semi-public spaces, where people are. I understand the reflections from the drivers that bringing *Camping Women* out in the public is a sign that the university wants to "give" something back to the community even outside university cities.

The organisation around the art installation itself invites collaboration because of the inter-dependencies at work. It needs people to exhibit it and volunteers to drive it to its destinations. The concept of boundary objects was developed to understand the coordination of amateurs, professionals and researchers working together on

data collection within an institutional ecology. Wenger (1998) makes the important distinction that not all objects are boundary objects, whether by design or in their use. "Nevertheless, to the degree that they belong to multiple practices, they are nexus of perspectives and thus carry the potential of becoming boundary objects if those perspectives need to be coordinated" (Wenger 1998, 107–8).

This raises the question of whether *Camping Women*, by design, is a boundary object or a nexus of perspectives. I will argue that it is both. If the Faculty of Humanities had just bought the exhibit as an artwork, it might have appeared as a "self-contained object," and the engagement of the students, researchers and visitors would have been the engagement of the spectator. However, the design of *Camping Women* encourages participation, and the manner in which it has been used makes it a boundary object. As an exploratorium, the exhibit invites tinkering, entering and exploring, both for sensation and an aesthetic experience and for dialogue and driving. As a boundary object, it facilitates collaboration and the coordination of knowledge and methods between the artistic community, researchers, teachers, students and volunteers – in the experimentation on humanities issues and in getting *Camping Women* around. Using the formulation of Star and Griesemer (1989, 393), the exhibit is "both plastic enough to adapt to the different purposes, yet robust enough to maintain a common identity across social worlds."

Conclusion

Camping Women has provided a new dimension for getting art to the university. Besides being a "self-contained object" inviting aesthetic experiences, this project on *Camping Women* demonstrates that art can play an active and integrated role in the traditional teaching and learning programmes, and it can be used in research as well as in outreach and knowledge sharing. The *Camping Women* installation embraces core aspects of the humanities, such as being a refugee and a mother, but also aspects of mobility, space, time and learning. Thereby, it serves as a vehicle for exploring human existence and practices in multiple contexts. Furthermore, engaging volunteers in the purposes of the humanities is new, and this makes *Camping Women* special because it invites, and needs, broader participation within and outside the university. As such, the project on

Camping Women may serve as a promising and complex prototype for a humanities exploratorium.

References

Baarts, Charlotte. 2010. "Autoetnografi". In *Kvalitative metoder: en grundbog*, edited by Svend Brinkmann and Lene Tanggaard, 153–63. Kbh.: Hans Reitzels Forlag.

Bukdahl, Else Marie. 2013. "Campingkvinderne Kommer". Presented at the exhibition preview, Aalborg University, April 30.

Danmarks Forskningspolitiske Råd. 2010. "Danmarks Forskningspolitiske Råd - Årsrapport 09. Dansk forskning - store globale udfordringer og store globale muligheder". Copenhagen: Forsknings- og Innovationsstyrelsen.

Flyvbjerg, Bent. 2011. *Making Social Science Matter: Why Social Inquiry Fails and How It Can Succeed Again*. Translated by Steven Sampson. 13. printing. Cambridge: Cambridge Univ. Press.

Gimmler, Antje, Christina Nielsen, and Mads Platon-Rødsgaard. Forthcoming. "Det lugter af barndom - om atmosfærer og rummet".

Halpern, Megan K. 2012. "Across the Great Divide: Boundaries and Boundary Objects in Art and Science". *Public Understanding of Science* 21 (8): 922–37. doi:10.1177/0963662510394040.

Hede, Jesper. 2010. *HumanT: Hvad er det moderne humaniora : Rapport om HumanT - den humanistiske tænketank*. Det Humanistiske Fakultet, Københavns Universitet.

Kvale, Steinar, and Svend Brinkmann. 2015. *Interview: Det kvalitative forskningsinterview som håndværk*. 3.edition. Kbh.: Hans Reitzels Forlag.

Norheim, Marit Benthe. 2008. *Campingkvinder*. Camping Caravans - installation. http://www.norheim.dk/campingkvinder11.

Star, Susan Leigh, and Griesemer, James R. 1989. "Institutional Ecology, "Translations" and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39". *Social Studies of Science* 19 (3): 387–420.

Wenger, Etienne. 1998. *Communities of Practice : Learning, Meaning and Identity*. Learning in Doing. Cambridge: Cambridge University Press.