

SOCIAL DYNAMICS OF KNOWLEDGE COMMUNICATION WITHIN HIGHER EDUCATION: THE CASE OF AN ART-SCIENCE COLLABORATION

Michael Biggs¹, Daniela Büchler², Simeon Nelson³

Abstract — *At the University of Hertfordshire [UH] in UK we have hosted a series of research projects into the changing nature of the arts as it has been progressively academicized and incorporated into the university community. We have observed that the dominant knowledge model of the academic community is the scientific one, valorising text-based reasoning, empirical research and determinacy. We have observed professional arts, on the other hand, valorising non-textual communication, conceptual research and indeterminacy. This struggle for legitimacy can be described in terms of vocational versus academic values, and the different capital and habitus of the actors. In our paper we describe the social space of the contemporary arts in the university. We take as a case study a recent report by an arts professor at UH on an arts-science collaboration which shows how this struggle was played out, and the values and capital mobilized by the various actors.*

Index Terms — *arts education, culture, paradigm, values.*

In the last 20 years there has been a movement, throughout Europe and beyond, to incorporate education in the creative and performing arts into the universities. One can identify various social and economic reasons for this movement, but the purpose of this paper is to concentrate more on its effects. In the UK this merger occurred in 1992, when as a consequence of the Education Reform Act 1988 [1] the former polytechnics, which by then had already absorbed most of Higher Education in these subjects, were converted into universities. This had the effect of completing the historical academicization the arts which began with the establishment of the Royal Academy in 1768. This conversion placed on the arts the requirement to undertake research, award doctorates, and compete for external research funding, etc. in ways comparable to other academic subjects in the university. But owing to the arts having previously been a vocational subject, with its Higher Education needs focussed on satisfying the professional demands of employment in the Creative Industries [2], the arts had little or no infrastructure to meet these demands leading to what we have called *ad hoc* solutions.

We regard it as understandable, if not inevitable, that the newly academicized arts should have turned to the existing models of research and academic practices to find these models. Unfortunately, the dominant models available in the universities were largely scientific, leading to what we now analyse to be disjunctions between the values of the arts community and the research actions they have adopted.

In the fields of cultural studies and activity theory, a community is defined as a group of individuals who share common values. A community is defined by their shared set of values to which the members broadly subscribe and thereby identify themselves as part of that community. Values include cultural beliefs and also ontological and epistemological beliefs about the nature of the world and how one can interact with it [3, 4]. When communities evolve naturally, these values reflect the community's practices and these practices reflect those values. Such a community thus possesses an internal coherence between its values and the actions it performs, and as a result it is apparent why each community does what it does given what it believes and values [5].

The actions that a community performs emanate from the values that it holds [6, 7]. Members of a community perform a variety of actions, some arbitrary and some more purposeful, and some will make their way into the norms for that community's behaviour. An individual's conformity to the community's norms is usually the way one determines whether they are a member of that community. A benefit of this approach is that it involves judging an explicit behaviour rather than trying to judge a person's implicit values. Membership of a professional community often involves the adoption of certain characteristic behaviours [8] and, as a consequence, these become constituting behaviours. Aiming to act in accordance with a community's norms is a way of gaining admission to a community [9].

1 Michael Biggs, Professor of Aesthetics, University of Hertfordshire, England, m.a.biggs@herts.ac.uk

2 Daniela Büchler, Senior Research Fellow, School of Creative Arts, University of Hertfordshire, England, d.m.buchler@herts.ac.uk

3 Simeon Nelson, Professor of Sculpture, University of Hertfordshire, England, s.d.lockhart-nelson@herts.ac.uk

HIGHER EDUCATION AS A SOCIAL SPACE

As a result of adopting this framework we had a sceptical approach to the truth-claims or established authority of any subject, and instead we preferred to perceive the cultures of knowledge and community-specific sets of beliefs that underpinned these claims. When looking at the newly constituted universities, we did not therefore see a single dominant scientific community having to retrain an aberrant set of arts newcomers. Instead we saw a clash of cultures, not just two cultures [10] but maybe many, all emerging as a result of some kind of paradigm war [11]. Indeed, the clash of cultures at a subject level, in which certain subjects were admittedly newcomers, revealed a latent clash of paradigms already present in the universities before the 1988 reforms. Thus we noted the presence of qualitative research methods, and so-called alternative paradigm research that had emerged in the USA from the 1980s onwards [12], that had found ready acceptance in the postmodern European universities before the upheavals on which we were commenting. So there were already tensions within the system that the incorporation of the arts merely served to amplify, reveal and ultimately force to the surface. We claim this was owing to the presence in the reformed universities of a plurality of worldviews.

A worldview is basically a set of beliefs that one holds about the nature of the world and one's place in it, that determines the activities one would undertake as a researcher. In this paper we contrast, as an example, the Realist worldview with the Anti-Realist or Constructivist worldview. An example of the Realist position can be found in the classical physicist, who believes in an external world and believes that facts can be found out about that external world. Because it is external, it is independent of the emotional responses and interests of the researcher. It is an objective world and one can say objective things about it. One can find evidence for it, and anyone else can find this combination of evidence and objective statements. As a result, they will conclude broadly the same things about the nature of the world. The more repeatable the outcomes, the more the statements and claims are held to correspond to what is actually out there. Such a worldview creates a research paradigm in which certain activities are relevant: reaching for evidence and setting up repeatable experiments becomes meaningful. Owing to its usefulness in science, this model has become, we claim, the benchmark for research in any area [13].

But of course this is not the only worldview. If we compare Realism to the world of literary theory: the literary theorist doesn't approach the world in this way. They do not believe there is something objective out there: for example, the fundamental interpretation of a text. Their worldview is much more engaged with the reading of the individual person, and with the subjective experience of the reader in constructing the text. The individual's interpretation is at least as meaningful as anything that one might claim the author put into the text [14]. In this worldview the external world is not independent but is constructed by the individual who is viewing and interpreting it. This is opposite to Realism and is called Anti-Realism. We claim that the paradigm wars observable in the contemporary universities are founded on a forced cohabitation of incommensurable worldviews, in which many of the evaluative tools used by managers in the academy still assume, falsely, a certain degree of homogeneity.

By contrasting Realism and Anti-Realism we can compare some of the beliefs and actions in each paradigm and understand more clearly why equally well informed advocates of each approach can disagree on what seem to be such fundamental issues. For example, the role of evidence is very strong in Realism; but as one moves towards the Anti-Realist position, towards Constructivism, the role of evidence changes. It is not that evidence stops being meaningful, it is that evidence stops being significant [14]. The Anti-Realist does not really look for evidence in the sense that the Realist does, or at least the meaning of the term evidence changes radically as one moves into more interpretative or Constructivist paradigms.

Evidence has meaning in a worldview in which the world that we experience has an underlying order, expressed by concepts such as The Laws of Nature. Owing to a causal connection between them, the world that we experience acts as symptomatic of that underlying order. The Laws themselves are inferred from these symptoms, on the basis that the universe is some kind of mechanism simply playing out the conditions of its creation. The Constructivist, on the other hand, sees agency in the person having those experiences when looking at the world. The viewer sees-in these experiences a reflection of what they believe the world to be [15].

There are many positions on the Realist/Anti-Realist spectrum, with as many consequences for the respective worldviews. The Positivist, for example, is a Realist who believes in the independence of the external world. Like other Realists s/he will use evidence to infer fundamental principles about the operation of the world. However, unlike other Realists, the Positivist claims that if something cannot be verified empirically then it is meaningless.

We felt, as a research group, that the worldview with which the arts were confronted when they entered the university was dominated by concepts from the Realist end of the spectrum [16]. This is perhaps just one more phase of a general historical shift. With the entry of new subjects into the universities over hundreds of years, the dominant paradigm has changed. Nonetheless, when we looked at the kind of regulatory framework that universities set up – that was supposed to be generic for all subjects – and the language that the research councils were using, there was a strong Realist component in them. For example, the use of the terms 'question' and 'answer' by the UK Arts and Humanities Research Council in their

definition of research [17], could have been made less Positivistic by the use of the terms ‘issue’ and ‘response’. The former are not necessarily appropriate for the arts. As one goes further towards Constructivist Anti-Realist paradigms in which the individual’s experience becomes not just an unavoidable nuisance but is constitutive of the kind of content that one thinks there is in a subject like the arts, so one moves away from what seems to be the preferred model of the universities. It was more and more difficult for artists and performers to express what it was they were doing in terms that would satisfy the universities for the award of a PhD, for example. So in the UK, and elsewhere in Europe, one can see individual institutions struggling with this, and struggling with what it is that artists and performers could do for which universities would feel able to award a PhD, or for which research councils would feel able to award a research grant [18].

We speculated that the arts represent an extreme alternative to this traditional model. Even the most liberal institutions have perhaps only moved about halfway across this spectrum, and therefore the arts are still relatively difficult to encapsulate within these structures. This would be significant should the arts turn out to be something novel – to operate within a new research paradigm and a new worldview. If the arts do indeed operate within a new paradigm they should be able to say: our ontological position is this, our epistemological position is this, our methodological position is this, and all of these are coherent and that is why we warrant special, different conditions to the ones that have formerly been recognised. Now that, we think, is an original and desirable position, but only if it is also defensible. What is undesirable, and what we wanted to react against at the beginning of our research project, was the idea that because the arts couldn’t easily be described in terms of the traditional research paradigm, this somehow indicated that they needed to have special, compensatory conditions, that is to say, exemptions and excuses from the normal requirements. Such exemptions are not based on good arguments and on the whole tend to produce a weak outcome for the person who is claiming them.

THE CASE OF AN ART-SCIENCE COLLABORATION

Using this explanatory framework we analysed the reports of the ‘Skyway Science and Art Talks’ at the Skyway 09 Light Festival in Toruń, Poland in August 2009. The talks were co-convened by Simeon Nelson Professor of Sculpture, University of Hertfordshire and a joint music and astrophysics research student, also at UH representing the worldview of the arts. The Professor (Nelson) is a co-author of this paper. The event promised a cross-disciplinary event in the context of the International Year of Astronomy. In addition to the exhibition of artworks and installations, there were various scientific events that coincided with the observable phenomenon of the Perseid meteor shower. During the festival there were two-days of talks that featured and invited group of two artists, two astrophysicists, a historian of science, a musician, the Skyway Festival director and the Toruń 2016 director. The first day of discussions was held in public and the second day was just for the invited group. A report on the Talks by the arts curator and one of the artists, our co-author, was later posted on the social publishing website ‘Scribd’ [19]. Also published were a ‘curator’s report’ [20], and a notice of the event under the International Year of Astronomy [21]. Unfortunately, at the time of writing the Skyway 09 Light Festival website was unavailable [22]. These documents gave us the opportunity to undertake a narrative analysis in order to determine whether we could find indicators of any clash of worldviews, and how the social dynamics of knowledge communication and sharing was acted out.

THE DOCUMENTATION

The Astronomy website objectively validates the choice of Toruń because it is the birthplace of Copernicus, reinforcing the scientific value of the festival. It validates the choice of the month of August in order to facilitate viewing the Perseid meteor shower. In contrast it charmingly describes the illumination of the city as ‘tasteful’ and the experiential aspect as ‘unforgettable’ [21].

In the report on the Talks we also noted a implicit acknowledgement of the dominant hegemony in the assumption that the real work of knowledge production was done in science, and therefore the artistic assertion that

merely illustrating scientific ideas or phenomena was posited as an undesirable outcome [19].

We also noted a strain in the rhetoric when reporting on shared interests, expressed in sentiments such as

Artists and scientists alike seek visual images of worlds both visible and invisible. They attempt to ‘read’ nature in a very similar way. At the nascent moment of creativity barriers dissolve between artist and scientist [19].

Scientific dominance was also implicit in the observation that there were ‘tensions between the artistic visions of the participating artists’ [19]. At least three sub-groups or worldviews were identified amongst the artists, which serves to reinforce the preconception that artistic inquiry is not a unified practice with common objectives and methods, in contrast to the assumed unified view of science. The criticism is all the more telling because it comes from the arts, showing that the

self-image of the artistic community is one of division. Of course, the scientific community is also deeply divided on many points, which formed the academic content of, for example, the conference at the University of Hertfordshire which was another part of the International Year of Astronomy. However, this was not highlighted by the artist/critic, thereby reinforcing the Realist position that its worldview is verified by its correspondence to reality. It is further verified by finding consistency in the world, borne out by the science community being able to share methods and outcomes. Thus the pluralism of Anti-Realism, which should be an acceptable consequence of its belief in the subjective construction of the world, is perceived, or turned into, a weakness. This weakness is very likely to undermine the arts community in any future debates that consider concepts such as knowledge, i.e. artistic knowledge will seem second-rate, or not to warrant the term 'knowledge' [23].

An opportunity for our worldview interpretation appeared to be offered when it was noted that scientific and artistic statements 'both have truth value, one in the domain of Logos, the other in the domain of Mythos' [19]. The domain of Logos refers to Classical Greek philosophy where it means rationalism or reasoning through discourse. The domain of Mythos refers to Classical Greek rhetoric where it means a story or the plot of a tragedy. In the latter, the meaning of 'true' is in the sense of true to the plot or characters, i.e. believable. This too, reinforces the implied subjectivity that culturally contrasts with the use in Logos where 'true' is objective and to be contrasted with 'false'.

Science and myth are two types of knowledge, each occupying a separate domain, each complementary. Both are necessary for a complete understanding of the world, myth provides psychological insight and a poetic narrative of origins, science provides as accurate a factual account of the world as is available at a particular point in time. Science does not delegitimize mythic, artistic or poetic apprehensions. It has no effect on their truth-claims. Likewise myth/poetry/art has little if anything to say about the truth-value of scientific discovery, but it may have a lot to say about the way in which scientific knowledge is interpreted or applied to society.

DISCUSSION

What we conclude from this brief narrative analysis of reports from Skyway09 by professional artist-academics is that underlying the reporting of this cross-disciplinary event are assumptions of unequal value based on the dominant hegemony of science as a worldview over the alternative worldview of the arts. This implication can be found in reports written by representatives of the arts, and not only in reports written by representatives of the sciences. This reflects a cultural hegemony that we identified in the universities, and that provides a context within which the arts is now engaged in a struggle for legitimacy [8].

The festival was an attempt to bring together two stereotypically opposed cultures. From the stand-point of education we would describe one of the main differences between their stereotypical manifestations as the difference between academic and vocational orientation, also described as the difference between intellectual and economic capital [24]. With the admission of the arts into the university system across Europe and beyond, this difference is no longer present, or at least the inter-mixing of the agendas of traditionally academic and traditionally vocational subjects under pressure from the polity has led to an erosion of this distinction. The traditionally academic focus of subjects in the universities before 1992 is no longer seen as desirable. Thus the admission of the vocational subjects that were already focussed on economic rather than intellectual capital, should serve to reorient both cultures. Far from academicizing the arts, the polity seems to have had the intention that the academic subjects should be impacted and changed by the arts and the other newcomers, thereby gaining in economic capital [25]. Of course, from an arts point-of-view the impact has been felt as the contrary. The impact on the arts has been to confront them with demands for performance in areas that are new, such as research. In an attempt to meet the new performance indicators the arts tried to adopt models from science that were perceived as being so productive they were the dominant and preferred models of research across the university. These models and their assumptions already permeated the regulatory structure of the universities leading to the understandable conclusion that academic knowledge must be scientific.

Alternative paradigm research points us in a different direction. Indeed, the arts should take comfort from the fact that the move into the universities was at least as much motivated by the transformation of the traditional subjects, as it was the transformation and academicization of the formerly vocational subjects. However, the dominance and apparent productivity in social as well as economic fields gives the scientific model a cultural hegemony in the universities that has led us to describe them as essentially Realist in outlook. In this respect the diversity of Anti-Realist positions can be seen to be a handicap owing to the division of effort between a plethora of competing paradigms, whereas the Realists coalesce around a core of shared principles. However, the in-principle plurality of Anti-Realism offers new views on existing problems. Bourdieu [26] described the academic production of knowledge as the multiplication of claims through a discretionary process of differentiation. Although one might not wish to take on his theoretical framework wholesale, we find the concept of the academicization of subjects is useful. Academicization need not refer to an increase in the robustness of argumentation, or to the deepening of knowledge by the employment of improved methods, or any other description of esteemed academic

practices within the university. Following Bourdieu, the apparent production of knowledge can also be attributed to the employment of strategies of differentiation and classification leading to a plurality of ‘facts’, opinions and beliefs. With this in mind, the plurality of Anti-Realism has much to offer the university in its pursuit of the multiplication of ‘knowledge’.

We have now chosen to place ‘knowledge’ in scare-quotes to emphasise the discretionary nature of knowledge. Knowledge is context dependent, and scientific knowledge and methods are not independent truth-claims but are situated in cultures of knowledge and communities of users who find them functional. We have already claimed that many of the university’s traditional activities were validated with reference to the scientific model of knowledge, leading to a largely Realist outlook in all subjects. The entry of Anti-Realist cultures of knowledge has the potential to change this, and to greatly multiply the productivity of knowledge within the university by offering alternative approaches to traditional subjects. This would have the effect of multiplying the economic capital of the university.

Perhaps owing to their pluralistic approaches, the arts tend to make more modest truth-claims and to situate these claims in a framework from rhetoric rather than logic. We can now recognise this as the earlier claim of ‘truth in the domain of Mythos’. However, we can also claim that the Anti-Realist worldview prevalent in the arts has an equally sound ontological basis as the Realist worldview of science. Thus if we are prepared to abandon certain deeply embedded socio-cultural assumptions that are grounded in the Realist ontology, we can find equally sustainable alternative worldviews that support artistic outcomes as knowledge – ‘truth in the domain of Logos’. This should be desirable for the universities, and it has to be conceded that most universities are moving in that direction. The conclusion of this paper is that even when cross-disciplinary activities are undertaken with the clear awareness of addressing cross-paradigmatic worldview clashes, we can still find vestiges of the hegemonic position. The social dynamics of cross-paradigmatic activity, such as arts education within the university, and arts-science collaborations, inherit both the methodological force and the intellectual capital of the scientific model. Higher Education serves to transmit the values of the university into professional practice. This model pervades much of our thinking, all the time placing alternative thinking on the defensive. This is evidenced in the rhetoric of emerging disciplines, and the grounds on which they conduct their defence. The lack of methodological scepticism from science reporting should not be regarded as indicative of more robust truth-claims, but merely a symptom of its social maturity, and we therefore invite further research to be undertaken on the transgression of both scientific and arts ontologies into the social realm.

ACKNOWLEDGMENT

The authors acknowledge the support of the UK Arts and Humanities Research Council for this research.

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