

The Research Catalogue: A Model for Dissertations and Theses

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INTRODUCTION

Arguably, the traditional paper-based academic publication format has proved disadvantageous for practice-led fields of research and study, such as art and design. A move into digital formats promises to remedy such disadvantages, while it must remain clear that any format will at the same time enable *and* limit the preparation and publication of all academic or artistic propositions. However, it can also be argued that contemporary artists are specialised in the negotiation of formats, since a definition of modern art without consideration of notions such as ‘medium’ or ‘technology’ seems to be impossible. This line of thought provides just one reason why the voice of artists and artistic researchers matters when it comes to the definition of new formats for dissertations and theses. Even more provocatively, it is possible to argue that artistic research might offer a point of reference for any form of contemporary research, because an understanding of the impact of the presentation format not only enhances the communicative powers of a research project, but also shapes the research process and is reflected in its findings. This is not to say that art and science are identical or that something like a ‘third culture’ (Snow, 1998) exists; the point is rather that artistic research despite its comparatively short life and confusing definition may

offer an important and potentially essential reference point when methods of research and modes of publication are being discussed.

On a more pragmatic level, even if such a radical position is not shared, artistic research remains a fact. The UK has been at the forefront of the developments in this field since the 1992 *Further and Higher Education Act* paved the way for research in art and design allowing MPhil and PhD degrees to be awarded by art schools that since have become universities¹. Other countries and regions, such as Australia or Scandinavia, have been similarly active while often naming their degrees differently². In the European context, it is specifically the 1999 *Bologna Declaration* that has given artistic research a much greater relevance in several countries, introducing the possibility for awarding doctorates in art and design, together with bachelor's and master's degrees. It appears that our culture has accepted and is actively promoting practice-led research in art and design, which warrants the question of how artistic research compares with research in other fields, such as science or the humanities, in particular when it comes to assessment, publication, dissemination and accessibility.

At present, although a practice component is essential for the successful delivery of an artistic research project, no guidelines exist addressing how this component is to be presented in the context of a thesis³. The written component on the other hand, since it is formally similar to research outputs in other fields, is required to adhere to standards of academic writing, and it is this component that is archived in the libraries and accessible, for example, via the British Library's *EThOS*⁴ programme. It appears that whatever is accepted as 'academic writing' and technically supported by institutions such as universities or the British Library will define how much 'practice', that is, material, visual or acoustic research will be stored and remembered, and thus allowed to impact on the future meaning of the findings. From an artistic researcher's point of view, the current situation artificially cuts through most of his or her artistic research projects, requiring an adaptation of potentially foreign formats through which results may be compromised. Assuming that reflective distance is still required, it would be much more favourable if the form of instantiation was determined by the research project itself. In the case of artistic research, the materials, methods and communicative requirements make an institutionally and technically flexible approach to the 'writing' of a thesis desirable. Moving to digital and potentially multi-medial dissertation and thesis formats is thus relevant not only because it allows more media to be attached and submitted, but also because it promises a more creative and formally precise negotiation of academic, reflective and critical work. This would have the advantage of being technically compatible with traditional forms of academic writing while opening up the intellectual potential of such negotiation even to non-artistic research fields.

The development of the *Research Catalogue* (RC)⁵ may be seen as a first step in this direction. The RC emerged from discussions around the *Journal for Artistic Research* (JAR)⁶ at Y, the Institute for Transdisciplinarity, at the University of the Arts in Berne, Switzerland, where, together with experts from the field of

conservation, forms of documentation and referencing of artistic research have been discussed. The development of the RC is funded by the Dutch government as part of the *Artistic Research Catalogue* (ARC) project, organised through the University of the Arts, The Hague, and led by Henk Borgdorff and myself. The project brings together eighteen academic and non-academic partner institutions, which contribute individual research projects that are analysed for the development of the RC, a prototypical software specifically designed for the publication of artistic research. The RC is used for JAR and can function as institutional repository as well as serve as a model for dissertations and theses in art and design in general. Both the RC and JAR illustrate current developments in the field, which hope to bring together institutional and intellectual requirements by engaging with digital publication formats. Before I go on to explain the RC in more detail and indicate its relevance for the discussion concerning digital dissertations and theses, a further explanation of artistic research is required in order to contextualise the particular challenge artistic research poses and the solution the RC offers.

WHAT IS ARTISTIC RESEARCH?

‘Artistic research’ is a troubled concept, but the term has gained popularity, in recent years, specifically in the context of the continental European engagement with the question of research in art and design. In the UK, notions such as ‘studio-based’ or ‘practice-based’ have been popular to describe such research activities while the Arts and Humanities Research Council (AHRC) currently prefers the term ‘practice-led research’. This term, like any of the others, reflects the AHRC’s position according to which it ‘expect[s] ... practice to be accompanied by some form of documentation of the research process, as well as some form of textual analysis or explanation to support its position and to demonstrate critical reflection,’ while it states that without such support artists ‘would be ineligible for funding from the Council’ (AHRC, 2009: 59). With these sentences the AHRC provides a pragmatic definition for research that in an essential manner involves artistic practice. However, the definition given by the AHRC is also an elaborate construction, which while solving some problems creates others.

As far as research methodology is concerned, the most important problem created by such definitions is the lack of an identifiable site for research in the arts. In fact, it appears that the definition is set in place precisely to avoid such a site, since neither should practice on its own be seen as research nor should research be found in the written part, which is there only to ‘support’ and to ‘demonstrate’. Research thus requires a studio-practice supplemented by writing. The site for research is as a consequence always double, with one aspect referring to the other. On the one hand, such a deferral can be perceived as a problem, because no clear instruction can be given to a researcher of how he or she is supposed to orchestrate the relationship between art practice and writing.

On the other, deferring the site for research also offers an opportunity to a researcher, who is encouraged to do valuable groundwork in order to explain a project's particular methodological position. A notion such as 'artistic research' rather than 'practice-based' or 'practice-led' research has the benefit of not making a categorical decision concerning orders within diverse methodologies of research and the origin of a particular finding. It is also of importance that the notion of 'artistic research' connects better with non-academic modes of research within the wider artistic community, indicating that a cultural agreement may be reached in relation to what generally counts as 'artistic' but less towards the more specific driving factors of research⁷. All of this happens, of course, against the backdrop of a post-deconstructive cultural climate where metaphysical notions such as 'origin' or 'presence' have virtually disappeared (cf. Derrida, 1997) and where a re-defined understanding of art promise a way forward (cf. Badiou, 2005; Rancière, 2004; Nancy, 1996).

In recent years, a shift has occurred in the discussions around artistic research, which has had the effect of emphasising the primary rather than secondary status of writing⁸. Questions such as if or how artefacts in general may embody knowledge (cf. Biggs, 2004) have become less relevant when compared with engagements with concrete research projects and, importantly, the way they (re)present themselves, that is, the different ways in which they engage with writing. In their introduction to *Thinking Through Art: Reflections on Art as Research* (2006), Katy MacLeod and Lin Holdridge reference Stephen Melville, who in his catalogue essay *Counting/As/Painting* starts with the assumption that 'theory is not something that needs to be brought to objects. It is something at work within them, a constitutive part of what or how they are' (Melville, 2001: 8). Based on such understanding he can claim that "[t]heory" here would be less something a critic or historian brings to the work ... than something to be traced in it, and writing would belong to such work as part of its unfolding, a continuation of the conditions of its appearing' (Melville, 2001: 19), which in the context of artistic research makes MacLeod and Holdridge demand that '[w]e need to bring our writing nearer to our making' (MacLeod and Holdridge, 2006: 12). Notions similar to that of 'unfolding' can be found in Florian Dombois' approach via 'modes of depiction (*Darstellungsformen*)' (Dombois, 2006) in Mika Elo's discussion of Walter Benjamin's use of 'translation' (Elo, 2007), my own remarks on 'reflection' (Schwab, 2008) or 'deconstruction' (Schwab, 2009) or Jonathan Miles' work on Jacques Derrida's concept of 'invention' (Miles, 2012) which he pits against an instrumental notion of 'method'. The usefulness of the latter term in the context of artistic research is also questioned by Henk Slager (Slager, 2009).

Using these and other concepts, the discussions leading to the *Journal for Artistic Research* identified what may be called modes of writing that can be found in the *practice* of artistic research. This preliminary list is being further extended in the *Artistic Research Catalogue* (ARC) project to include notions such as:

- *Exposure*. In the RC, research aspects of works are exposed shifting an emphasis or highlighting particular aspects.

- *Staging.* In the RC, artistic work is staged as research; staging implies that the form of the work is transformed into a 'stage form' that performs its research contribution.
- *Performance.* Like 'staging', 'performance' indicates the utilisation of a register of presentation and the creation of an experience.
- *Translation.* An artwork is translated into the language of the Research Catalogue; form and elements of the work shift, whilst meaning is conveyed.
- *Reflection.* What is invested in the work is reflected upon through additional ideas and concepts potentially 'dormant' in the work that increase its relevance and/or understanding, which is reflectively transformed.
- *Unfolding.* A research aspect is unfolded as other folds are created when the work is entered into the Research Catalogue.
- *Exhibiting.* As exhibition, a Research Catalogue entry does not represent an artwork but its context dependant publication.
- *Curating.* Content is arranged in such a way as to open up meaning between pieces of visual, acoustic or textual information.

Such exemplary descriptions of modes of artistic publication are beyond the traditional practice/theory divide. They require a re-consideration of 'academic writing' as taking place in-between not only theory and practice, but also academic and non-academic modes of working that point not to a 'definitive difference' but only to '*différance*' (Öberg, 2010: 41f).

RELATIONS TO SCIENTIFIC RESEARCH

To date, there has been no comprehensive attempt to empirically link methodological or epistemological developments within the theory or history of science to artistic research; studies such as Florian Dombois' work, for example, that links scientific with artistic modes of research remain the exception (cf. Dombois, 1998; Kunsthalle, 2010). However, in particular the work of Bruno Latour and Hans-Jörg Rheinberger lends itself to such a perspective and has started to enter the discourse. Noteworthy in this respect is the work of the artistic researcher Hannes Rickli, who worked with Rheinberger for his 2009 exhibition *Videograms* at the Helmhaus in Zürich. The exhibition is part of a long-term research project, in which Rickli collects and artistically analyses the original video documentation used for scientific experiments in order to display:

everything that is aesthetic about the research process, and thus everything that is perceptible by the human eye and ear. The trace reveals precisely that which is obliterated as scientific activity evolves: concrete objects, spatial constructions, temporal sequences, lighting conditions, gestures, and manual actions. Precisely this twofold character of the trace, which cannot be wholly controlled by the producers, interests me as an artist. (Rickli, 2012: 108)

Here, an artistic interest meets an epistemological interest, because for Rheinberger too, what may be seen as the 'messy' practice of laboratory research (an expression that already implies aesthetics) is not sub-ideal but rather essential to the development of a field. What Rheinberger terms an 'experimental system' is a complex, ambiguous and only partially directed setup for the creation of

‘epistemic things’, which ‘present themselves in a characteristic, irreducible vagueness. This vagueness is inevitable because, paradoxically, epistemic things embody what one does not yet know’ (Rheinberger, 1997: 28). Epistemic things may be material objects, but they can also be concepts, structures or functions that play a role in knowledge generation processes. For the pragmatic reasons of mastering vagueness, the development of collaborations between scientists and artists appear productive for science, and have been funded by the Wellcome Trust, for example, as part of its *sciart* scheme (cf. Bergit and Thackara, 2003). For the present argument, however, it is not the possible instrumentalisation of art for scientific research that matters; rather, it is the proposed re-conceptualisation of science as *practice* that makes epistemic things comparable with works of art when it comes to research. Being practically defined, ‘thing’ or ‘work’ are essential parts of making processes (the making of knowledge in this case), an aspect that is important when research is described as situated (cf. Holert, 2009; Haraway, 1988) or performative (cf. Haseman, 2006; Bolt, 2008). In an attempt to describe artistic research, Henk Borgdorff suggests the notion of ‘boundary work’ (Borgdorff, 2010; 2012; Schwab, 2012), which he explicitly links to Rheinberger’s concept of epistemic things, stressing that artistic research takes place not only on the border between art and academia but also on the border where the border between art and academia meets life (Borgdorff, 2012). It is in this sense, that Rickli’s work exemplifies the capture of epistemic things while the boundaries are still fuzzy, adding to their scientific relevance a co-present artistic relevance, both of which are aspects of the ‘work to be done’ (Borgdorff, 2012: 120) when thinking meets life.

Epistemic things/boundary works have a public dimension. They are not ‘objective’ in a distanced and ‘true’ sense, but rather involved in the hands-on creation of objectivity, that is, the reality-in-flux of our shared understanding of the world (cf. Daston and Galison, 2007). Without such public dimension epistemic things or boundary works could not do their work, which is the reason why if one wants to know how knowledge comes into being and communicate knowledge in action, one needs to be sensitive with regard to the moment at which an external register, such as the writing of a thesis, over-determines and thus fixes identity in knowledge⁹. To be sure, such fixture is an academic achievement which I am far from dismissing; I only want to indicate that fixture requires depth for which universities also need to cater should the knowledge they produce remain culturally credible and relevant. In reference to the ideas of both Michael Gibbons and Helga Nowotny (Gibbons et al., 1994; Nowotny, Scott, & Gibbons, 2001), Borgdorff proposes to explain artistic research in relation to Mode 2 knowledge production emphasising, however, that artistic research may also be used to question the very distinction between Mode 1 and Mode 2 research (Borgdorff, 2008: 18). Nevertheless, he makes a case for much artistic research to fit the criteria for Mode 2 research (context of application, transdisciplinarity, heterogeneity and diversity, accountability and reflexivity and extended peer review) indicating that negotiations between artistic and scientific research when

understood as Mode 2 knowledge production have become possible, if not timely. Discussions around the importance of practice for research or the particularities of Mode 2 knowledge production shed a light on the fact that limited and idealised registers of research and the associated constituents of knowledge are being transformed even outside the debates around artistic research, which adds to these debates an extreme reference point and a challenge.

ACADEMIC WRITING

Seen against such a backdrop, academic writing is not something one simply learns and applies; rather, it is the labour of creating and transforming epistemic things or boundary works into their public and discursive form that can be understood and evaluated by a group of appropriate peers in order to judge their relevance for research and society. The traditional model for academic writing is propositional text, while for the debates around artistic research the use of other media such as image or sound is of importance for a piece of writing. To employ multimedia in the context of academic writing is not unheard of, but it is their relationship to the text that is of concern if it is thought of as representational. If an image, for instance, appears to illustrate a text, we do have the sense that what is to be said resides in the text, while the image has a mere communicative function; conversely, if a text explains an image, we think that the image holds the meaning while the text merely elaborates on that meaning. Both cases use different voices, but it is the importance of representation (that text is represented through an image or vice versa) that makes it so difficult for artists, because contemporary art is defined aesthetically rather than representationally, at least if we are to follow Jacques Rancière's assessment of the situation, when he claims that the representational regime of the arts has been replaced by the aesthetic regime (Rancière, 2004). Even if one does not follow Rancière in calling what is occurring in contemporary art 'aesthetics', there is widespread consensus that however one may refer to the present situation, it has to be defined outside of representational registers¹⁰. However, if this is the case, how do we build a bridge to academic writing?

We teach academic writing to students in order to improve their use of language, with the aim of helping them to make a more precise and generally better argument. The most important features of academic writing may be identified as: complexity, formality, precision, objectivity, explicitness, accuracy, hedging and responsibility (Gillett, 2010). Admittedly, not all notions on this list lend themselves to an easy transposition into the field of artistic research, although once one operates in material, visual or acoustic cultures most of these terms will make sense outside of a limited propositional, textual use. For an artist, for example, complexity means that a work also speaks of its reflective implications and its position within a context of practice, making 'easy' solutions often impossible. Such explicitness need not, however, be literal, for a work's proposition may very often lie in what it does not explicitly say. Accuracy in the context of artistic

research may refer to the use of tools, devices or materials, not, however, as a demonstration of skill, but rather as the creation of an accurate relationship between any of these elements and the work's meaning. Accuracy may be understood like a tuning or calibration process, in which a single experience is shaped from accurately interrelating diverse elements. Precision¹¹ may be required, because even if a work does not look precise, this very character of not-looking-precise may be a precise way of entering the material, adding, for instance, justification to a transformative appropriation (which would be a 'misquote' if it did not work). Hedging, on the other hand, is not often openly discussed in the arts, but most people are very aware of the limits that a work accepts in order to remain comprehensible, that is, art. If everything was to be mobilised in an extreme artistic effort, the work may have a claim, but this claim may be hermetically sealed off. While these features may be found in academic and non-academic contexts alike, formality, objectivity and responsibility appear to be more specific to artistic research than to art in general¹².

In respect to responsibility, a fake account of a research project, or the use of fake references within one, might be essential to an art work but counter-productive to its relevance as artistic research. This would be particularly the case if the account does not produce new understandings on the basis of such inaccurate referencing, which, however, as understanding would have to be accepted as genuine (the means are fake, but the result is not). Formality thus means that artistic research as a form different to art is accepted and embraced, including a shared concern with regard to artistic contributions to knowledge and understanding. Objectivity, however, as discussed above cannot mean the assumption of a detached world and its equally detached understanding, but is a transpersonal strife, which as artists but not as researchers we have the luxury to ignore.

The lack of objectivity, however, also means that assessments are grounded in subjective negotiations between peers also when it comes to the status of an artistic research publication as academic writing. On this side, too, the field is constantly shifting. The *Journal for Artistic Research*, for example, has discussed what rules, if any, might apply to its reviewing process and, perhaps more importantly, from what vantage point a review can speak *about* a publication. *JAR* has resolved at present to a learning-by-doing approach in an attempt to avoid simply replicating reviewing processes from different fields that might not be appropriate to artistic research. Nevertheless, the goal is an expanded notion of academic writing that includes a multiplicity of voices, diverse forms of presentation and an artistic re-negotiation of what it means to add to knowledge and understanding.

THE RESEARCH CATALOGUE

The Research Catalogue is best described by explaining its key concepts: exposition, page aspect, tool and work. An exposition is comparable with what articles

are in traditional journals. It has a title, one or more authors, an abstract, a media file that can be used to represent the exposition and a set of closed-vocabulary metadata. As the name suggests, the purpose of an exposition is to 'expose' practice as research rather than simply document or refer to it. Given that there is no ready-made template for an exposition, each exposition represents a choice as to how a material is exposed within the constraints of the RC. To mention two extremes, the RC supports traditional text-based propositional formats, while it also supports a collage of sound, image or video files that might not be textually linked or commented upon. The choice as to how an exposition is constructed adds to its meaning and plays an important role during the reviewing process.

An exposition consists of one or more pages, where a page is the two-dimensional surface on which content is organised. A page is a fabric made up from different elements brought together at particular positions so as to facilitate a constellation that results in a meaningful exposition. Other than a computer screen, a page is not limited to a pre-determined size. Rather, a user of the RC will see at any given time only a particular aspect of the page, that is, he or she will see only a limited part of a page through a window or frame. The user can scroll horizontally or vertically to move around the page or can use hyperlinks to reposition the aspect on a page or to navigate to an aspect on a different page. Additional navigational tools attached to the frame offer navigation from page to page, that is, from the default aspect of one page to the default aspect of another page. The ordering of the pages in relation to each other forms an important part of the way in which an exposition may be unfolded through user interaction. (Pages may be compared with rooms in an exhibition: we move from one room to the next, but also have choices how we move. Using hyperlinks, we can tele-transport to exact locations in a room, but also to a page-cum-archive or a page-cum-studio in order to drill down into particular details.)

All the content on a page is displayed through rectangular tools. Tools are specific and can be configured by the author(s). For example, the text tool might be used to display a block of text, while it can also be edited to allow emphasising words or captions, etc.; the image tool displays an image, while the amount of metadata that is displayed can be chosen in the settings; the slide show tool displays a sequence of images and so on. The RC has started with a limited set of tools, and we expect the toolbox to grow in time as researchers from diverse fields may require particular visualisation or sonification tools¹³. Tools offer structured ways in which to display information on a page the same information displayed through different tools may look different. The tool position and the tool size are configured by the author(s) as part of the exposition writing process.

Some but not all content may be grouped together in works. A work is an identifiable entity with title, author(s), description, metadata, etc. that brings together one or more files that form a presentation of the work. For example, a painting may be depicted in its entirety, but additional photographs of details

may be important. Sketches may also belong to a work and so will photographs or recordings of the work in different contexts or during different performances. Textual elements concerning how the work has been made or how it may be read may equally belong to a work on the RC. Semantic tags will eventually allow the navigation of a work through its supporting media files. Works or, in fact, any piece of content are displayed via tools at particular positions on the pages of an exposition.

Files that do not belong to a work must be part of an exposition¹⁴. Such files are most often text elements that explain relationships between works or introduce critical discourse that is of relevance for the exposition. It is, however, also possible that an exposition does not utilise the work structure at all even for content that might otherwise be considered a work. The reason for this is that a 'work' is not a neutral entity as it delimits and objectifies what might require a less determined place in the overall architecture of an exposition. Despite this, it is important that the RC supports what may be considered traditional modes of art writing, artistic research publications and museum-type repository structures, because the RC is not intended to replace any of these, but rather to extend the options a researcher has when preparing his or her material for publication. This is to say that the form an exposition adopts and the way its material is structured become, in fact, part of its content. On a technical level, this means that all design choices by the author(s) are actually part of the content of an exposition (and have to be stored appropriately in the database). Depending on the context in which the RC is used (as part of *JAR*, as an institutional repository, etc.), a consistent default style has to be agreed upon and stored with an author's material so that they can edit this to sustainably reflect expositional choices. It also means that the RC cannot be too experimental, because it will have to reproduce exactly what was submitted and agreed upon on publication.

TECHNICAL CONTEXT AND BACKGROUND¹⁵

The Research Catalogue may be novel, but it is nevertheless part of a more fundamental transformation of the use of information technology in art and design. The RC combines four usually separate fields of applications: academic repositories, museum catalogues, online publishing and e-research. In theory at least, in the field of art and design, digital dissertations and theses will require an engagement with all four areas in order to reap the potential benefits from advanced uses of information technology.

Academic repositories usually hold institutional research output, if not in downloadable form as reference or as a link to the publisher's website. Given that artistic research extends the format research output can take, academic repositories need to adapt. *Kultur*¹⁶, for example, is a JISC-funded project with the purpose to enhance the existing *EPrints* institutional repository software for the use in art and design. As part of the project, the *EPrints* metadata schema was

extended when the original generic term ‘artefact’ was developed into ‘art/design item’ to support categories such as ‘Animation’, ‘Architecture’, ‘Audio Work’, etc. a number of which can apply to a single work (Sheppard, 2009). Additional uploads of media files serve to illustrate the item, without, however, being embedded in a structured model of their interrelationships and their different roles in representing the research output. Nevertheless, *EPrints* is a good example for the extension of an academic repository into areas usually covered by museum catalogue software. At the same time, such an extension adds an additional overhead to deposit processes. As far as digital dissertations and theses in art and design are concerned, such enhanced institutional repositories already allow for digital versions of traditional, paper-based texts that can also be supported by online multi-media content, while the dissertation or thesis itself will not be prepared online. Repositories spring into action after the fact.

Online publishing software is usually independent from repository software. Items from a repository may be used for the preparation of a publication, but they are normally used as a reference, a copy or they may sometimes be embedded. However, in these cases the publication does not integrate with the repository and making copies is often preferred over making links. Copies can be controlled while links might break or linked content might change making publication platforms that use such features questionable, in particular when it comes to dissertations and theses, but also in the case of peer-reviewed articles where what is reviewed has to stay the same and has to function as reference even in the future. Artistic research, for which design and modes of presentation are essential, adds an even greater difficulty to this, because not only has the content of a contribution to remain identical, but also the way it appears on screen. This poses an enormous challenge, because changes in technology, such as new browser generations or server software updates, impact on the way in which a publication appears on screen. Despite such difficulties, the arrangement of content and the overall design of an online, institutionally supported publication has become important in e-portfolio applications such as *Mahara*¹⁷. *Mahara* allows users to drag-and-drop content from their *Mahara* file repository onto a single portfolio page, which can even be submitted for marking to a tutor. As mentioned, it can be difficult to be certain which elements on a portfolio page are fixed when this page is submitted, because RSS feeds, blogs or embedded media cannot be locked. Equally, changes to the uploaded files on repository level are reflected in the submission, as well as site-wide style changes, which can alter the design substantially. If content could be locked, html use limited and the page style made independent of the site style, *Mahara* e-portfolios could (almost) be useable as dissertation platform in art and design.

A combination of repository and online publication software, as proposed for enhanced publications, could go a step further. An enhanced publication is, for example in the context of the EU funded *DRIVER II*¹⁸ project, defined as ‘enhanced with research data, extra materials, post publication data, database records ... and that has an object-based structure with explicit links between the

objects' (Woutersen-Windhouwer et al., 2009: 31). Enhanced publications in the field of art and design are rare if not non-existent, while they have become essential tools in other areas. Henry Rzepa, Professor of Computational Chemistry at Imperial College London, for example, states that 'to truly understand a chemical phenomenon, you benefit from having the data that constitutes the model being presented' (Rzepa, 2009). The claim to be made for art and design and artistic research in particular would be of a similar nature: an artistic phenomenon will be better understood if the model of thinking that is proposed for its comprehension and communication can enable an active engagement with the material assembled during the research process, keeping in mind that any representation of artistic material in a repository or a publication will have transformed this material from a reality into an intellectual model.

TRANSDISCIPLINARITY

The RC may not so much offer a new format for dissertations, theses and artistic research publications in general than a meta-format or a framework that allows format choices to be made, represented and evaluated. Like any (academic) publication format, the RC is limited to what can be done and sustained technically, but it need not prescribe how a particular argument is presented or a case is made. As much as one may focus on the technical development of the RC, it is not so much the variety of required and supported media formats, for example, that give the RC and with it artistic research a particular position in the field; rather, it is the acceptance of the format as content-relevant and thus necessarily internal to the unfolding of a research project that makes the RC unique and may indicate artistic requirements when new digital formats for dissertations and theses are discussed.

If digital technologies enhance what may have been limited format choices in the past, one has to admit that thinking about formats puts into disposition their historical, institutional, ideological and disciplinary role as regulators for academic research and study. Art's role in this context is more fundamental than the question whether an artwork may or may not contribute to the development of knowledge and understanding; the moment the question of form is touched upon and considered relevant, we are on artistic territory. This does not mean that the form is dependent on the content, which it truthfully reveals in a modernist kind of way, but rather that its transformational interdependence with truth throws up new types of questions that disallow, at least when it comes to research, the separation of art as 'assertion of form' from philosophy (or science) as 'assertion of truth' (cf. Steinweg, 2004; 2009). Transdisciplinarity may be defined as a confusion of form and truth processes, which is beneficial for the understanding of a phenomenon and the creation of epistemic things or works of art. Seen from a transdisciplinary point of view, as Latour suggests, reality stops being different for scientific or artistic researchers, since artists now 'can work on the same realities as scientists' (Latour, 2009). To this, one should, however, also add the

reverse: that what counts as reality to an artist must also be accepted as part of scientific reality. Accepting each other's reality does not mean that art and science are identical. Esa Kirkkopelto is right to point out that other than with approaches external to art, 'artistic research does not question the existence of art or an artistic experience, but takes it as a given fact' (Kirkkopelto, 2008). It is this particular perspective that allows artistic research to add a wealth of new methods and approaches to the canon of research for which an intimate understanding of how art works is fundamental.

Returning to the question of digital dissertations and theses, with the RC a transdisciplinary definition for a research publication is attempted that accepts all formats, artistic or scientific, by making the format choice part of the writing process. The writing process is a data preparation process, which adds the creation of new data and new data relations to the engagement with existing data. The reader can, in a potentially self-directed fashion, enter into and even enhance the data or use the data actively, that is, not just as reference, in a different context. Needless to say that, for more than purely technological reasons, both *JAR* and the RC have to be an experiment and a research project in their own right, since although both can project what many voices in the field of artistic research require, making it work remains a tremendous challenge.

NOTES

1. Due to their special status, a limited number of art schools in the UK could award practice-based research degrees before that date (cf. Mottram, 2009).

2. In many countries, a Doctor of Arts (DA) rather than a Doctor of Philosophy (PhD) is awarded. The former appears to emphasise the specifically artistic element while the latter seems to place emphasis on the comparability of the research to other fields and methodological approaches all of which converge in this unifying 'research doctorate'.

3. I am focusing on the MPhil/PhD thesis, because for MA dissertations the question of practice is less of a problem. In effect, an MA dissertation has the luxury of not relating in any direct manner to a student's practice, while for a practice-based PhD thesis its relationship to practice is essential making the thesis a more radical case in point.

4. <http://ethos.bl.uk>

5. <http://www.researchcatalogue.net>

6. Both the RC and JAR are initiatives of the Society for Artistic Research (SAR). For more information and a list of the, at present, thirty-eight international supporting institutions see: <http://www.jar-online.net>

7. According to Stephen A.R. Scrivener, historically the art world has failed to develop a 'professional research class' if compared with other fields of research (Scrivener, 2006). A strictly intra-academic discussion of artistic research might, thus, miss out on essential aspects of artistic research, which the academy has not represented or, indeed, cannot represent.

8. This is true even outside the question of research, as the popularity of artists' writing and publication projects and the number of new writing degrees at art and design schools in the UK indicate.

9. Bruno Latour's notion of 'circulating reference' is also relevant in this context. Reversible 'chains of transformation' maintain reference while reducing and amplifying phenomena as they are turned into compatible, standardised text that can enter circulation due to its relative universality (Latour, 1999: 69 ff.). The 'gap' between world and language is not radical but rather gradual creating space not for a single leap of understanding, but for multiple, transformative processes towards 'objectivity'.

10. Rancière is aware of the problems associated with the notion of 'aesthetics', but chooses to maintain that word (Rancière, 2009). Alain Badiou, for example, dismisses representation and also aesthetics both of which are regulatory principles outside of which art operates (Badiou, 2005).

11. Notions such as 'simplicity' or 'consistency' may be added to 'precision' in order to describe the characteristics of research. A series of symposia (2005–2007) at Y, Institute for Transdisciplinary, University of the Arts, Berne, discussed these notions in the context of artistic research (Dombois, Yeboaa, & Schmidt, 2009).

12. I am aware that this distinction is difficult to maintain. Voices such as Dieter Lesage's, for example, conflate art and artistic research (cf. Lesage, 2009), while I insist that such a position predetermines what art can be (art need not care about knowledge) rightly adding to the fear that artistic research, in particular on an institutional level, might actually be part of an attempt to control art (cf. Sheikh, 2006).

13. The development of new tools may be an important part of a research project and budgeted for in a funding application. The development of new tools allows responding to the particular needs of specialised research communities.

14. The museum, theatre, music hall or gallery context offers little if no registers for art outside the notion of the work. That the RC offers such a place may be significant, in particular when positions such as Michel Foucault's link the questioning of the notion of 'work' to the practice of writing (Foucault, 1984). Concerning authorship, the RC is less radical, although seen in totality, the interlinkage through tagging and search algorithm as well as the re-usability of material dissolves authorship to some degree.

15. A word to my personal background, which will explain the choices of examples in this section: outside of my role as ARC project leader, I work at the Royal College of Art in London as tutor in Critical and Historical Studies and have been employed as e-learning coordinator for a number of years. The RCA uses *Mahara* for its e-portfolios and is currently introducing *Kultur* as its repository software; I am sure that different examples from other institutions can be found to illustrate the point I make.

16. <http://kultur.eprints.org/>

17. <http://mahara.org/>

18. <http://www.driver-community.eu/>

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