



Writing Visual Culture

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Introduction: Ways of Knowing

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This first edition of *Writing Visual Culture* features a small but indicative selection of the papers that were presented at the *Ways of Knowing* conference, held at the University of Hertfordshire in September 2010. The central and intertwined themes of the volume are representation – both scientific and artistic - and epistemology. The three main questions from the call for papers that are addressed by the essays are: “What are the interplays between scientific visualisations and the arts?”, “Can art be a contribution to knowledge?” and, “If art and science are understood as equally necessary and complementary ways of knowing the world, how does this understanding enrich them?” This volume does not offer any simple answers – if these, indeed, exist – rather it raises a number of supplementary questions about how certain constructs of art and of science may be argued to link up with concepts of how knowledge might be defined.

The first and focal paper is “Occult Arithmetic: Music, Mathematics and Mysticism” by the astrophysicist Robert Priddey. The essay was at the stage of a preliminary draft when he died so suddenly. It has been lightly edited by his interdisciplinary research student, Alice Williamson from the Music Department of the School of Creative Arts, in order to retain a sense of his personality and wide-ranging cultural interests. It should not be seen as a finished academic paper, but rather as an insight into his modes of thinking about art and science.

Priddey’s paper asks whether the Pythagorean concept of *musica universalis* – that is to say music as “a direct embodiment of the processes underlying nature” (Priddey 2011) – could be viewed today as an “archetype” for a fruitful interaction between art and science. This is not a call for a literal espousal of the principles underlining the 6th century Greek theory of the “Music of the Spheres”. Rather it is a suggestion that today, in a “poetic” or “metaphorical” sense, the Pythagorean idea may offer us a potential basis for identifying two different but vitally interconnected “ways of knowing” about the complex world that we live in (Priddey 2011). One of these is through the operations of logic, mathematics and reasoning



– now seen as the pathway of contemporary science. The other is intuitive, visceral and personal – which he identifies as the pathway of art. While this may seem to recall the arguments of Romantic philosophy – and indeed Priddey does invoke the concept of music theorised by Arthur Schopenhauer in *The World as Will and Idea* – there is also an underlying deep, and contemporary concern driving the argument. This concern is that, in the quotidian procedures of, and pressures on academic pursuit of science, the space for “awe and wonder” in the presence of the unfathomed – and possibly unfathomable - complexity of the world is in danger of being lost to scientists. It is clear that despite these pressures Priddey never lost this sense of wonder. For him, art, and particularly music, provided a way of intuitively perceiving and understanding, at least in an analogical sense, a breadth of complexities in the world that could not be pinned down by science. Thus in Priddey’s purview art can indeed be seen as a contribution to knowledge, a form of embodied philosophy that is necessary, complementary and enriching to scientific ways of knowing.

There is a sense in which the second essay, by another astrophysicist, James L. Collett, follows up Priddey’s ideas to some extent, from a practical perspective that involves making art from scientific observations. Collett explores the idea of “Natural Calligraphy” disclosed in his beautiful, observational photographic images of refracted and reflected light, and partly theorised through the theoretical prism of quantum mechanics. In contradistinction to the commonplace “knowledge” that there are no lines or edges in nature, Collett suggests that his images of natural phenomena or processes may be seen to indicate “a dynamic and evolving calligraphy” (Collett 2011), that can be argued to share properties with traditional calligraphy, particularly as displayed in the *Book of Kells* and Chinese calligraphy. His conclusion points especially to the visual and aesthetic possibilities of the potentially constant and unpredictably shifting, fluid ‘calligraphy’ formed by pouring modulated streams of glycerol into water, as a semi-musical art form, with its origins in a simple domestic scientific experiment. In effect, Collett offers an example of a possible interplay between art and science, which, on the one hand, uses art to challenge broad scientific assumptions and, on the other hand, offers art something to learn from science about the infinite possibilities of what may be defined as drawing. For Collett, as for Priddey, both art and science are perceived as potential ways of knowing about, and interrogating the world. A rather different view is presented by the philosophers Craig Bourne and Emily Caddick who, unlike Priddey, make clear demarcations between art, science and philosophy, and question the basis on which either art or science may be viewed as producing contributions to knowledge. In the paper, “On what we can infer from scientific and artistic representations of time”, they consider the extent to which artistic and scientific representations can give



knowledge of “how things are or could be” (Bourne & Caddick 2011). Bourne and Caddick use diagrammatic visualisations of Albert Einstein’s General and Special Theories of Relativity, and the film *Back to the Future* as case studies, in order to argue that both scientific and artistic representations need to be embedded in a philosophical framework, in order to constitute sources of knowledge.

The final paper by new media artist, Simon Biggs, “Between One and Zero: On the Unknown Knowns”, also addresses issues concerning scientific and creative arts practices as sources of knowledge, but from a very different perspective and with a very different focus. Biggs’ approach uses Slavoj Žižek’s critique of Donald Rumsfeld’s construct of “known unknowns” as a jumping-off point, to question the nature and contemporary hierarchy of the epistemological frameworks of the sciences and creative arts. By reference to a variety of theoretical sources, ranging from Lofti Zadeh’s theorisations of “fuzzy logic” in computation, through Charles Peirce’s semiotic theory, to the arguments of Stephen Scrivener, David Pye, Elizabeth Hallam and Tim Ingold regarding the definition of research in the creative arts, (by way of Boolean Matrices and, ultimately, Michel Foucault’s theorisations of the relationships between power and knowledge), Biggs argues that arts practice can be regarded as a “way of knowing”. His conclusion, however, also offers a timely warning that our values are unconsciously informed by “unknown knowns”, thus these should be subject to particular scrutiny and evaluation. What may be argued to be scientific and artistic ‘truths’ would thus seem to be an inexhaustible, but nevertheless significant subject for many future debates.

In summary, all of these papers offer some useful triggers for thought and future research regarding the relationships between the arts and the sciences. They suggest that, ultimately, there are infinite possibilities for fruitful interplay between these disciplines, which may be seen as potentially mutually enriching in a variety of ways. Art as a means of generating original contributions to knowledge, has already been well established as a route for doctoral research, and is the focus for considerable academic discourse (Biggs and Karlsson, 2011). The potential relationships of art and science have yet to be fully plumbed. This is very rich, and possibly inexhaustible seam.

Reference

Biggs, M.B. and Karlsson, H. eds, 2011. *The Routledge Companion to Research in the Arts*, London: Routledge.



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http://sitem.herts.ac.uk/artdes_research/tvad/simpson1.html