



Writing Visual Culture

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Preface: Ways of Knowing: Art and Science's Shared Imagination - Perspectives from the Sciences, Humanities and Creative Arts

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This volume of *Writing Visual Culture* presents selected papers from an interdisciplinary symposium at the University of Hertfordshire hosted by the Fine Art Practices Research Group, in the School of Creative Arts. The conference was convened by myself, and held on October 1-2, 2010. It was an exciting and well-attended event, drawing in members of University of Hertfordshire staff from a variety of disciplines in the arts, humanities and sciences, and also invited external keynote speakers: Tony Longson, Professor of Art, California State University, Los Angeles; Rob Kessler, Professor of Ceramic Art & Design, Central Saint Martins College, University of the Arts, London; Anna Dumitriu, visual and performance artist; and Professor Simon Biggs, research professor at the Edinburgh School of Art.

The conference was initially convened to celebrate the first year of a new set of potential relationships between the arts and sciences, signified by the creation in 2009 of the Faculty of Science, Technology and Creative Arts at UH. While a source of interesting and valuable collaborations and interchanges, the Faculty will now be disarticulated in 2012, as a result of a restructuring plan for the University, based on Schools rather than Faculties. The relationships previously forged will, however, live on. This volume is a testament to the advances in relationships between the disciplines that had been made in that first year.

Most importantly, it is also a memorial to Dr Robert Priddey, a young and eminent astrophysicist particularly keen on bridging the 'gap' between the arts and the sciences, who was instrumental in setting up this conference. Tragically, he died suddenly in 2010 of a brain haemorrhage, before the conference took place. His colleagues and his students – both in the arts and the sciences – have a great sense of loss. This first edition of *Writing Visual Culture* has been designed as a tribute to his enthusiasm and interdisciplinary interests.



The call for papers, reproduced below, was illustrated with a reproduction of a drawing of diatoms by the evolutionary scientist Ernst Haeckel, from his book *Kunstformen der Natur*, (1899), as a way of stressing the historical relationships between artistic and scientific vision. The call itself gives a sense of the deliberately broad-based intention of the conference, to bring together professionals in the arts, humanities and sciences for a pooling of knowledge, understanding and ideas.

Ways of Knowing: Call for Papers

“Imagination will carry us to worlds that never were. But without it we go nowhere.”
(Sagan1980, 4)

“Scientists animated by the purpose of proving that they are purposeless constitute an interesting subject for study.”
(Whitehead 1929, 16)

"A universe simple enough to be understood is too simple to produce a mind capable of understanding it."
(Barrow 1990, 342–343)

“It is my supposition that the Universe is not only queerer than we imagine, is queerer than we can imagine.”
(Haldane 1927, 286)

This symposium is motivated by the sense of wonder shared by artists and scientists at the complex cosmos we inhabit. It forms part of the celebration of the first anniversary of the Faculty of Science, Technology and Creative Arts and is a step toward what will hopefully be a longer-term interdisciplinary research effort in science and art within the new Faculty. This first meeting is deliberately broad in scope hoping to uncover as much work in science-art within the University as possible.

In 1975 a young artist named Tony Longson worked with the computers in the engineering department at Hatfield Polytechnic to produce what are considered to be important works in the then nascent discipline of computer aided art. In 2010 Tony will return to Hatfield to give a keynote address at this symposium reflecting on thirty-five years of engagement between art and science.

Art and science, at a fundamental level, are creative acts of imagination, invention and discovery. Until the modern period they were construed as complementary aspects of a



continuum of enquiry. In China, the Islamic world and India especially, art, philosophy and science flourished in this syncretic way (Morgan 2008) Despite the splitting of art and science into separate realms in the European enlightenment, cross-fertilisation and mutual fascination has continued to the present day. Examples of this would be the two way relationship of Cubism and relativity: artists had their world view radically altered by the mathematical discoveries of Poincaré, and Einstein's theories of relativity (Miller 2001). Another intertwining is found in the development of perspective in western painting as a way of seeing the world, locating an observer as separate from the observed, which was paralleled in the rise of empirical science (Kemp 2000). In the second half of the twentieth century artists rapidly colonized the new computational sciences, robotics and biotechnologies (see for example *Leonardo/ISAST*). Today a rich field of art-science work exists globally with numerous interdisciplinary courses being created in universities and much effort being put into interpretation and dissemination of scientific knowledge through the arts.

How do art-historical and contemporary artistic perspectives inform our understandings of science? How have the sciences informed, and been informed by music, performance, the visual and media arts? Aesthetic qualities such as symmetry and beauty are sought after in both art and science. What are the interplays between scientific visualisations and the arts? How can the abstract be made concrete? How do the aesthetics of scientific illustration and visualisation affect the public reception and understanding of science? How do political and social understandings affect the direction of science?

There has been much discussion of what theorist and curator Peter Weibel calls a "third culture" (2005) within the art-science community. This third culture is syncretic, in it science recognizes the broader culture and society within which it is embedded and is more connected to the public; there is a much greater understanding between artists and scientists of each others' fields. If art and science are understood as equally necessary and complementary ways of knowing the world, how does this understanding enrich them? What type of knowledge is produced by the numerous art-science collaborations and interdisciplinary art-science courses that have grown up internationally in the last few decades? What has been the main purpose and impact of these, to interpret and disseminate scientific knowledge or something more fundamental?

Further questions would be: do artists engaging with scientists affect the outcome of any science being done? Can art be a contribution to knowledge? Can science contribute to meaning in a way similar to the arts and humanities? What is the nature of discovery and creativity in art and science? Philosophical questions might look at how the value judgments



of the creative arts and the falsifiable statements of science interact when they come together.

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LAMB, T: Colour: Art and Science (Darwin College Lectures). Interdisciplinary essays. Exploration of color, from the diverse perspectives of experts in eight fields ranging from physics, through biology, to art history. Jean Luc Nancy Ad Reinhardt Artificial Intelligence Profile Science Age Illustration Painting Design. MOOS, D: Painting in the Age of Artificial Intelligence (Art and Design Profiles). Editor: David Moos. Contributors: Ad Reinhardt, Jonathan Lasker, Stacey Spiegel, Jean-Luc Nancy, Hans Belting, Robert Yarbre, Molly Nesbit, Warren Sack

^ Award winning collaboration of an artist and scientist. Includes large images that unite art and science, accompanied with textual entries that guide the unspecialized reader. French flaps. 160p. According to the American Academy of Arts and Sciences , the Humanities are "œdisciplines of memory and imagination, telling us where we have been and helping us envision where we are going." A simpler way of saying it might be that the Humanities are the subjects that deal with what it means to be human and on the uniquely human ways we experience the world. Fields of Study in the Arts & Humanities. A degree in the Arts and Humanities will give you a great foundation for a lot of different careers. Students who study these disciplines learn to think critically, to express themselves clearly, and to analyze new information. These qualities lead to a high degree of professional flexibility and adaptability. Not only science but art also, shows us that reality, at first incomprehensible, gradually reveals itself, by the mutual relations that are inherent in things. What better way to introduce this final chapter than to widen the theme of scientific realism and its integral role in the history of ideas to include the interplay between art and science. View. Conclusion: The New Sciences. Root-Bernstein, Miller and others have found common ways of thinking shared in creative scientists and artists: observing, visualizing, abstracting and making patterns [11][12][13]. Art is based on investigating the phenomena around us, the same as science does [14,15]. First of all, artists observe and describes artful phenomena as scientists look through nature for identifying problems. Science is creative in much the same way that art, music, or literature are creative, in that scientists have to use their imagination to come up with explanations. These explanations are well informed " they are not mere guesses " but there is no escaping the fact that they are ultimately products of the imagination. As Peter Medawar explained, "Scientists are building explanatory structures, telling stories which are scrupulously tested to see if they are stories about real life" (Medawar, 1984, p. 133, emphasis in original). It can be difficult to understand how scientific creativity works in practice, so in this module we will briefly explore the creative process from the history of one of the big problems in biology: heredity. That is, how do organisms inherit the traits of their parents?