

Finding a way: art-science communication from the perspective of an artist and educator.

A paper delivered at 'Still divided cultures? Researching the practice interactions of art and science.'

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Nathan Cohen: Paper: '*Finding A Way*'

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One of the questions we might ask ourselves when seeking to communicate with others is what do we mean to say? Then follows a process of working out how best to say it. However, before we even address this there is the journey that needs to be made to arrive at a point where we feel we might have something we wish to communicate. And then there are the questions of who we wish to communicate with and why.

It occurred to me, having spent a number of years talking to artists, scientists, designers, researchers, historians, etc. that there might be a need for a space where intellectual and experimental engagement between disciplines could be encouraged and embraced within an educational context, and to this end the MA Art and Science was born.

My experience as an educator has been both within a University and an art school environment, and prior to establishing the art and science MA I had already created and taught an interdisciplinary programme combining art and architecture. So I had first-hand experience of observing how students might engage with a subject that spans more than one discipline and how researchers share ideas between disciplines. The MA Art and Science presents new challenges and continues to evolve in form and content.

And this is partly what I wish to talk about today. For the approach we are taking as a team in teaching this programme is one that requires initiative on the part of those learning in determining what they engage with intellectually and creatively and how they problem solve both collaboratively and individually to advance their knowledge.

At Central Saint Martins we are working within the largest arts University in the UK which offers a distinctive context for teaching an interdisciplinary Masters course in art and science. It is particularly interesting in that, while well endowed with technical facilities that support a wide range of art and design output, we do not have a science faculty. This has meant that from the outset we have had to seek connections with individuals and institutions who do have this expertise, a process that the students on the course have of necessity also to engage with. Building networks of relevant connections and forging relationships that can lead to meaningful research and practical outcomes is key to this process.

Students applying for the MA Art and Science are asked to present a research proposal, and here begins the first stage in communicating ideas and intentions. On the basis of the proposal we then engage in a dialogue with the applicant to gain a deeper understanding of their intentions and to see if we are able to support them in their aspirations. On one occasion the interview was going well until, full of enthusiasm, the interviewee casually mentioned he would need a couple of months access to the Large Hadron Collider in Cern, and could we arrange this? Needless to say, on reflection, he realised this might not be entirely practical and we were able to discuss alternative approaches that might be feasible. Already, the need to be experimental and find solutions to practical problems had surfaced and the learning process commenced.

Our University is a meeting place for people from a very wide range of cultural backgrounds and students currently on the MA Art and Science hail from Korea, Brazil, America, China, Japan, the EU and UK. The 40 students across both years represent a healthy spread of sciences, humanities, arts and design with a similarly diverse range of research. Each of these students brings with them their own life experience and perspective on what the relationships between art and science might be and on the MA course they have the opportunity to engage with their peers and tutors in developing and advancing their research.

Peer interaction in the evolution of a subject is important and complements the institutional role in providing an environment where ideas are tested and critically reflected upon. As educators we bring our own experience to bare in this process, but it is not a one way interaction. If we are to achieve anything it should be to develop a culture of enlightenment, one which seeks to open up new horizons for investigation and exploration and encourage experimentation. When I proposed the setting up of this Masters programme it was not from the perspective of an *a priori* notion of what the subject is, but out of curiosity to see what it might be. And the intention is that each year of graduates will advance this understanding, for our students are not just on the course to learn but also to lead.

Of course, none of this takes place in a vacuum. While we have our studio laboratory which is home to the discourse and creative experimentation that takes place over the duration of the programme, we also seek conference with others outside of our institution. This engagement takes place in a variety of ways and with different outcomes. From the outset a number of institutions have been keen to work with our students, providing access to research and facilities, and most importantly the expertise of individuals in their own fields of research. A couple of examples include our work with the MRC Institute of Neuropharmacology, with students working alongside researchers investigating Parkinson's Disease in their wet labs, resulting in an exhibition 'A Nervous Encounter: Scientists and Artists in Collaboration' in Oxford. And the 'Encounters Between Art and Science' exhibition at the British Library last year, the result of a collaboration with the Science Collection curatorial team.

These examples, and there are others both collaboratively with the MA course, and now individually curated by recent graduates, are public manifestations of the communication of ideas relating to interdisciplinary dialogue between artists, designers and scientists. But for this to work there has to be a desire on the part of individuals to wish to engage in this discourse. Not all scientists or artists wish to speak to each other. Many may be interested in what the other are doing but lack a meaningful way to engage beyond reading a paper or looking at an artwork.

This is, of course, valuable in itself, and often the starting point for a deeper engagement. However, I have found over the years that there are those who do share a curiosity and wish to communicate with others outside of their discipline, and it is with these individuals that a process of meaningful engagement can evolve. This is a process that takes time but at its best should be of value to all involved and may result in outcomes that are engaging and could not be anticipated until this process of engagement, sharing and learning has taken place. It also requires a preparedness to learn something of the others intellectual world.

It has been my experience, and I think this may be true of others, that as we find ways to express our ideas and present our research in ways that are accessible beyond those specialist in our fields of research, so we begin to open up the potential for a wider dialogue and can begin to find areas of common ground. This may sound somewhat abstract but I am choosing my words carefully here, for the language we use and the approach we take should not, in my view, result in the limiting of ways in which we might comprehend what art and science might share and have to offer in advancing knowledge.

As an artist, who works closely with scientists in the development and realization of some of my artwork, I am aware of the need to evolve ways of working that can result in dialogue and interaction that potentially enables both parties to derive something meaningful from the relationship. A recent example of this has been the research I have undertaken at Tachi Lab in Japan. Based in Keio University, I was situated in their laboratory for a 5 month research residency, investigating new technologies they have invented that allows for projecting images in three dimensional space. This resulted in my creating an interactive art installation exhibited in the Aisho Miura gallery in Tokyo. From my perspective, I learned a great deal about their working methods and the technology they are developing; they were able to conceive of new applications for their technology, including novel solutions to data and information projection in public spaces. Of course, communicating across 2 cultures and languages also added spice to the relationship.

From the scientists perspective collaboration with artists and designers can often require something of a leap of faith, as outcomes may *not* be clearly defined at the outset and therefore unpredictable. Where collaboration does result in something that those engaged with can find some 'value' in this is often perceived differently depending on the individual and disciplinary outlook.

Each of us may draw different conclusions and still learn something from the experience. When this results in outcomes that enter the public domain this offers further scope for comprehending what may have been achieved. The public dissemination of this research is crucial to build a more informed understanding of the many interactions and collaborations that are taking place. It is to be hoped that editorial policy for established peer reviewed journals and publications will embrace the breadth of research that is evolving outside of the traditional science and art boundaries.

Our students are encouraged to be experimental and test their ideas in a variety of ways, and this is reflected in the teaching and the programme. The first 15 weeks consists of a number of projects exploring different aspects of art- science interaction, including visits to institutions such as the Gordon Museum, the Wellcome Collection, Wakehurst Millenium Seedbank, the British Library, The Fusion Reactor at Culham, the National Gallery, the Science Museum, Cape Farewell Trust, and so on. This is complemented by lectures, seminars and opportunities to exhibit and discuss the results of their engagements and research. Concurrently, there is a research methodologies programme that explores different approaches to research methods and supports students in developing a research methodology appropriate for advancing their own work. Practical and technological skills are also taught with inductions into a wide range of workshops, materials and making processes and this is ongoing throughout the 2 years of the programme.

We are keen to encourage the dissemination of ideas through a range of languages of communication and the Degree outcomes include dissertation and visual forms expressed through diverse media, from digital moving image and haptic technologies through drawing, graphic and written forms. Most students are very aware of the potential the internet and digital forms of communication have to offer and use these in innovative ways to advance their research, develop their art work and interact with their peers and a wider audience.

Yet, while the immediacy digital forms of communication can offer are attractive, there are also advantages to personal contact and interaction. Interestingly, among the questions most frequently asked by prospective applicants are how much contact time there will be with tutors, and will there be access to studio lab space and technical workshops for the duration of the course.

In conclusion, Agnieszka Tamiola, who recently graduated from the course, notes that: 'Before starting the MA I wasn't very aware of art and science discourses, so it was a mind opening experience. It equipped me with a variety of tools and ways of questioning, which is a good starting point from which to build. I wanted to be able to use the academic knowledge I gained while studying linguistics and the variety of projects that my peers from both years were pursuing opened new ways of thinking and making. It has been an invaluable experience that opened up new ways of how I approach my enquiries and practice.

The MA Art and Science is an important platform for future professionals in the field.'

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