

## **Reality Check.**

A few weeks ago, I received an unusual request for a lecture. It came not as most such requests come, from course organizers in the medical school for a standard medical or scientific treatment of development or physiology. Instead, it came from Dr Susanne Ramsenthaler, of Edinburgh College of Art. It also came as a surprise, for I know nothing about art. I don't even know what I like.

Susanne runs a course called Reality Check. Here is the course description she sent with her request for a lecture, with the comment that I had free rein:

*“This course explores issues of perception, interpretation and dissemination of notions of ‘Reality’ by introducing a range of ideas and dynamic approaches to image, body, space and time, informed by a variety of disciplinary perspectives. It will be delivered through a mixture of presentations, seminars, workshops, field trips, and student-led critique sessions, where you present your work in progress either individually or as a group for peer discussion. Elements of sculpture, still and moving image, movement and psychology will be introduced to generate discussion and ideas exchange that will help interweave your interests and develop increasingly focused areas of common interest on how we experience reality and the world around us. With an emphasis on ‘exploration’, you will be encouraged to participate in workshop situations, as well as engage in independent-learning projects to investigate real and imagined spaces and human interactions taking place therein. There will be a number of selected sites or contexts with which to work and experiment including a focus on the use of digital technologies”.*

I had absolutely no idea what I could do that would fit in with any of this, so of course I said “yes”. If that sentence seems not to make sense, consider this: taking on work in a familiar area risks it just being ‘work’, with no reward. Agreeing to do something while having absolutely no idea how to do it is a sure-fire opportunity to learn something along the way.

Reading the above description, and turning it over in my mind, I latched on to four almost consecutive words: *image, body, space* and *time*. Those words, at least, had meanings in my own world of science so they could give me a starting point. They could be the foundations of my lecture, and that for each of them I would start with the scientifically known but would go on to

discuss aspects of it that we never normally discuss in the lab or departmental tea room because, however important the issues are, they are just too difficult to attack scientifically. I hoped this might show arty types a way they could reach aspects of corporeality that we scientist's can't, when we are being scientists. Also, frankly, I was hoping I may get some insights from their reactions.

So, having assured them I would not be showing any gory pictures, and having checked that they would not be offended by images of unclothed humans (hardly likely in an art school, but I always ask), I began with 'image'. Specifically, with images of the body. First, there was a sepia photograph of a female nude sitting on the floor, then an anatomical drawing of muscles of a woman drawn in a broadly similar pose, and then a drawing of a skeleton, again almost in the same pose (Wikimedia Commons is the most amazing resource for images!). What did each image say? Which contained the woman? Did they all? Or is womanhood (humanity) only surface-deep, so that the inner anatomy is something else, something technically human but emotionally not?



To fuel the discussion, this was followed by another pair of pictures, the head of a (living) young woman looking into the middle distance, apparently deep in thought, and a detailed

drawing of head and neck anatomy. I then told the story of an undergraduate who came to me years ago, in real distress. He had been perfectly happy in his anatomy classes, no more shocked by death than anyone else is on meeting their first cadaver. But a few weeks into the semester his girlfriend came to visit and, while with her in affectionate moment, he suddenly 'saw' past the skin of his beloved to the muscles and sinews and nerves and vessels and glands and bones he knew to be underneath. He said he thinks he actually screamed. The story, which was an extreme version of an issue faced by most life scientists at some stage, provoked some very interesting conversations about what, exactly, we 'think' people are, and how this can be changed by deep knowledge. This section ended with a photograph sent to me by a female student, at the end of the reproduction week I teach to first year medics. It showed the mid-thigh to mid-abdomen region of someone (maybe the student herself) wearing a pair of high-waisted, beige briefs, on which someone (again, maybe the student) had drawn a perfectly positioned and coloured text-book style drawing of the internal

female reproductive system, vagina to ovaries. Some of the students (mainly but not exclusively men) in the arts room reacted with the same confusion as those in my medical lectures, as very different ‘images’ of the female body provoked by the slide collided in their brains.

So much for ‘seeing’ other people’s bodies. How do we ‘see’ our own? We considered how much



*The motor homunculus.*

‘we’ really do things, from voluntary arm movements to breathing to blushing to beating our hearts. I then showed the classic motor and sensory homunculi – sculptures of bodies with the size of each body part proportional to the amount of brain devoted to that part. The motor homunculus, for example, has massive tongue and hands and tongue because so much of our

brain is devoted to speech and to the manipulation of the physical world.

We then went on to consider our inner space. I showed the students a series of scanning electron micrographs of human tissues, at very high magnification, and we played an identification game of (I was really impressed by how well they did!). But this left us with an odd feeling of ‘self’ - how can our image of self be complete when we don’t know, at least not without doing a lot of science, most of what is inside us? And who is ‘us’ anyway, when 90% of cells ‘in’ the human body, by number, are not human at all but are gut bacteria?

So with image, body and (inner) space already discussed, to some extent, we moved on to time. I showed a classic developmental series, and we wondered when we came to be. Conception? Gastrulation? Birth? Cortical ‘completion’? Looking at pictures of toddlers and children, we imagined ourselves back at that age. Was that really us? Should we carry blame or shame for the things we did then? Were they ‘our’ fault or the fault of a previous being, connected in time with the being that we are now, but with almost every molecule replaced many times over? What should the answers people gave to these questions say to those who run a justice system in which the self of now is equated with the self that committed a crime decades ago? Before a photograph of an ageing woman holding a mask of her younger self, we pondered who we time-travellers ‘really’ are. And, in the end, when do we die? When our brains die? The last of our cells? To what extent is Henrietta

Lacks (whose cervical cancer was cultured as HeLa cells, and continues to be cultured) ‘alive’ now?

Finally, we looked upwards. Given that we contain multitudes of cells that can know nothing of us, the complete humans, are we ourselves multitudes that together make something higher, that we can no more perceive than a macrophage can perceive a person? We considered Margaret Thatcher’s (in)famous ‘there is no such thing as society’, not from the point of view of politics, but from the point of view of emergent properties.

The discussions went on well into the evening, and I confess to being utterly exhausted at the end, quite unsure about whether the session had been any use to anyone. But, over the next few days, people started to e-mail, keeping the discussions going. Then two arts students came to see me, separately, to ask how they could transfer to science because the questions they thought were the province of art were clearly really the stuff of the white-coated world. This put me in a tricky position, and I had to try to explain how ‘un-sciency’ I had been in focusing on the big unanswerable things rather than on the small and tractable. I lent them some very dull (but good) textbooks and warned them they should think of transferring only if they really find themselves excited by what they read. I also gave them Medawar’s definition of science – *The Art of the Soluble*. Since the session, some correspondence has continued, and Susanne and I have applied for a joint research project to build synthetic biological systems to allow artists to work with genuinely living media (please wish us luck!).

It was fun to cross the divide to the College of Art for a few hours but, as with most holidays in the exotic, it was also very nice to return, at the end, to the intellectual comforts of home.

Jamie Davies  
Edinburgh  
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## Links

Reality Check website: <http://www.realitycheck.eca.ed.ac.uk>