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**Interdisciplinarity in Action:
University of London Sciences and The Arts Interdisciplinary Discussion
Group, King's College London, 2nd February 2011**

Susie Christensen and Helen Barron are not the first people to get frustrated with C. P. Snow's claim that the sciences and the arts are such different creatures that the two will never be able to find common ground. But Christensen (PhD, English Department and Centre for Humanities and Health, KCL) and Barron (PhD Neuroscience, Institute of Neurology, UCL), are unusual in that they decided to do something about it. Hence, the 2nd February 2011 saw the inaugural meeting of the University of London Sciences and The Arts Interdisciplinary Discussion Group. A cross between a reading group and an open forum, the opening meeting grasped the nettle and adopted 'drugs' as its theme. After all, if the disciplines think so differently, then dissecting what happens to perception under the influence might be a neat way of crossing the divide.

As preparation, participants were asked to read Aldous Huxley's *The Doors of Perception*, Corlett et al. 'Glutamatergic Model Psychoses: Prediction Error, Learning and Inference,'¹ and Everitt et al, 'Neural mechanisms underlying the vulnerability to develop the compulsive drug-seeking habits and addiction'.² Although none of these texts could be described as easy going, the parallels between them were apparent immediately. Each text, be it Huxley's personal recollections, or the data and observations collected under lab conditions, made use of the exceptional state induced by substances to gain insight into the workings of the brain. Clearly, a lot of thought had gone into the selection of these pieces, and this forethought flowed over into the event itself. Christensen and Barron not only

¹ P. R. Corlett, G.D. Honey, J.H. Krystal and P.C. Fletcher, 'Glutamatergic model psychosis: prediction error, learning and inference.' *Neuropsychopharmacology*, Vol. 36, No. 1 (January 2011), pp 294 – 315.

² B.J. Everitt, D. Belin, D. Economidou, Y. Pelloux, J.W. Dalley, and T.W. Robbins, 'Neural mechanisms underlying the vulnerability to develop compulsive drug-seeking habits and addiction.' *Philosophical Transactions of the Royal Society (Biological Sciences)*, Vol. 363, No. 1507 (October 2008), pp 3125 – 3135.

produced hand-outs of key quotes from each text to help facilitate the discussion, but had also organised a series of brief presentations to set up a shared context and familiarise all those present with concepts and ideas that may have been foreign to their own discipline.

Helen Barron opened the presentations with a helpful overview of the varied history of the concept of 'drugs', tracing the evolution of the drug perceived as purely medicinal through to the present day division between the drug as intoxicant and the medicinal pharmacological product. The apparent link between artistic experimentation with substances and the growing opprobrium surrounding 'recreational' use - strengthened no end by the figure of the addict as first presented in De Quincy's *Confessions of an English Opium-Eater* (1821) - made an interesting backdrop for the discussion. Was it the drugs themselves that earned recreational or experimental use of substances their disrepute, or was it the particular group of people they were associated with? And how far do these pre-Victorian mores inflect our understanding of legitimate and illicit 'drug' use today?

Neil Saigal, a researcher in ReO Imaging at Cambridge University, then gallantly attempted to introduce us all to his work on opioids receptors and serotonin receptors within the brain. Having conducted a brief guided tour of the left and right hemispheres of the brain, mapping the sciences and the arts onto the two respectively, Saigal then introduced the idea of agonists and antagonists, substances that bind to receptors to cause or prevent a reaction in the brain. Providing myriad examples, Saigal demonstrated how the structures of specific drugs resemble the structures of chemicals produced by the body itself, and that this similarity is what permits drugs to bind to the receptors. To illustrate, Saigal showed how there are only infinitesimal differences between the structure of morphine and a substance the body produces for itself, the difference being that the body's drug, although potentially many times more powerful than morphine, will only bind to a receptor for a short period. Morphine, on the other hand, will take hours to fall away. The similarity between cocaine and a widely

available anti-depressant once again raised the question of what it is exactly that distinguishes the acceptable and the reprehensible drug? What medicinal possibilities are we shutting down with a blanket ban on particular chemical combinations? How molecular does morality get?

The first hour was finished off with a brief delve into the life and mind of Aldous Huxley, presented by Nicholas Murray, Huxley's biographer and current King's College Royal Literary Fund Advisory Fellow. Focusing on what motivated Huxley's infamous experimentation with mescaline, and explaining both the set up and results of each of Huxley's three controlled trips, Murray did much to dispel the myths that have sprung up around Huxley, thanks to the cult-like status he achieved during the 1960s and 70s. Huxley, it seems, was in search of an artistic insight he felt he lacked in an everyday state – a romantic with a scientific bent, then, rather than an advocate of tuning in and dropping out.

Murray's conversational tone led smoothly into the hour-long group discussion, which was framed by some of the questions Barron and Christensen had usefully set at the opening of the meeting. The discussion swiftly moved to a comparison between Huxley's narrative of his experiences and the research papers set as primary reading, asking what value, if any, an account like Huxley's has for scientific research. This opened up several strands of discussion that continued throughout the hour, ranging from the pros and cons of the scientific demand for an 'objective' third person account, to whether it is possible for the humanities and the sciences to contribute meaningfully to one another, to the conceptual shift from drug-taking as a communal, ritual practice to an individual quest for enlightenment or escape.

Perhaps the most prevalent debate was how *The Doors of Perception* could contribute to our understanding of what mescaline, and drugs like it, do to the brain. Interestingly, it was a neurologist who claimed Huxley's account was getting closer to the brain, or the mind, than any neuroscientific data, although the fact it is an isolated account seriously limits its

potential validity as evidence. Much debate focused on the ‘subjectivity’ of Huxley’s account versus the ‘objectivity’ in Corbett et al, and Everett et al, with the tension between these two models bringing out flaws in both approaches. If drugs are used to alter perception in order to tell us about the ‘normal’ brain, then how do you escape subjective accounts? If we don’t place the discoveries of neuroscience in a broader context, what do they tell us beyond the identification of particular interactions being involved in specific processes?

The feeling in the room seemed to be that this is where the humanities could usefully position itself, bridging the gap between the subjective and the objective. Proust was a case in point, providing us with a model of memory – the famous madeleine – that neuroscience is only now beginning to approach.³ The humanities, it was felt, could perhaps treat cultural artefacts as the products of a particular set of contextual ‘stimuli’, responses to agonists and antagonists present in a specific socio-historical matrix that fulfilled some kind of cultural need. Perhaps the humanities’ place is to provide analysis of the cultural interactions behind particular artefacts, movements, concepts, and in doing so, provide insights the sciences can build on.

Almost inevitably in the current tumultuous climate, the theme of money cropped up in several guises. When asked how the work of the neuroscientist relates to a broader understanding of the mind and of consciousness, Saigal pointed out that funded research has to produce practical results, meaning they can find out what goes on in the brain, but are prohibited from then developing this into a more speculative model about consciousness as a whole. Questions related to cash and an investment in practical applications arose again as we considered the different truth values across disciplines, with several science students bemoaning the limitations placed on them by the demand for conclusive data. Money means a demand for numbers, definitive connections, convincing experiments. The space for

³ This notion originates from Jonah Lehrer’s *Proust Was a Neuroscientist* (Boston: Houghton Mifflin Co., 2007), in which he explores what the work of Whitman, Eliot, Escoffier, Cézanne, Stravinsky, Gertrude Stein, Virginia Woolf and, of course, Proust, can tell neuroscience about how the brain functions.

speculation about what these results might mean in non-empirical terms just isn't funded, and the frustration felt by some of those present was palpable.

The energy and enthusiasm in the room was both unexpected and exhilarating. Anyone left with an overwhelming sense of despair or ire with C. P. Snow's 'two cultures' and The Reality Club's version of a 'third culture' could do well to attend the next meeting of this group. The fact that more than forty people squeezed into a room intended for twenty shows the hunger there is in those rising up the ranks of the academy for a new form of discussion. With such a willingness to reach across disciplinary divisions within the room and the mutual confessions of exasperation of elements their own orthodoxies coming from all sides, the resonance with the overarching theme was striking. Have we shut down whole avenues of research and discovery without thoroughly interrogating what it is that motivates such proscription? Have we reduced science to its practical applications at the expense of its imaginative capabilities? And are we really ready to accept the humanities as science's unruly, debauched cousin - indulgent, occasionally insightful, but ultimately, skint, scatty and a drain on resources? It seemed, in talking about drugs, we weren't just talking about drugs. But most importantly of all, this group isn't just talking about how the disciplines could meet; it's actually getting the disciplines talking face to face.

To receive information about future meetings, please contact susan.christensen@kcl.ac.uk or helen.barron.10@ucl.ac.uk, or visit the [Centre for Humanities and Health blog](#).

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