Editorial

Another Front in the Science Wars?

The editors are delighted that 'The Science of Art' by Ramachandran and Hirstein (1999) has generated such a volume of commentary. We take our subtitle 'controversies in science and the humanities' very seriously, and it would appear that scientific enquiry into aesthetic appreciation is indeed both controversial and topical. We invited V.S. Ramachandran to respond to criticism specific to his paper in the interview which follows this editorial; we consider this interview a brilliant reply to his critics, and that it includes some important additions and clarifications. Here we wish to consider the controversies surrounding the article and its commentaries in the broader context of the so-called science wars, and the general question of whether insights from science and the humanities can be integrated, or at least be allowed to peacefully coexist.

One pessimistic view of the situation appears in a review by practising painter and art historian John Nash of the first volume of *Art and the Brain* in a recent issue of *Interdisciplinary Science Reviews*. He seems to regard as almost unbridgeable the gulf between science and the arts which *JCS* has, albeit clumsily, attempted to bridge:

> Ramachandran and Hirstein say naive things that are rightly heavily criticised by their respondents. . . . In sum, it is hard to make useful observations about things you know little about (Nash, 2000).

Attempts by scientists to trespass into the humanities (and of course *vice versa*) are bound to generate some degree of resentment and misunderstanding. Nevertheless *JCS* remains unrepentant in its efforts to push against disciplinary boundaries.

Cross-disciplinary friction can produce problems even more intractable than misunderstanding and dispute. It was fear of discrimination by her own scientific colleagues, due to her feminist, postmodern, text-analytic approach, that led one author to publish her trenchant commentary on Ramachadran and Hirstein's paper under the pseudonym 'Donnya Wheelwell'. This in turn generated some strong responses from readers, such as the following:

> Is there something rotten in academe? It would seem unreasonable in this modern day that an academic author would be so intimidated by her professional colleagues

> that she would be afraid to publish a mild article of dissent in a mainstream scholarly journal like *JCS*. 'Donnya Wheelwell's' article, 'Against the Reduction of Art to Galvanic Skin Response' is not scandalous, libellous, shocking, irresponsible, lurid, prurient, or paradigm-threatening in any way. From my viewpoint it is somewhat pedestrian, merely pointing out obvious absurdities in Ramachandran and Hirstein's article. I wouldn't waste my time responding to an article so far off base as R&H's. But I am mystified by the fact that Wheelwell is afraid to publish her rebuttal under her own name 'for fear of scorn of her colleagues'. Is Wheelwell just an especially timid person? Or is there something dreadfully wrong about the relationships in this intellectual community? (Adams, 2000)

We agree in principle with many of these points, and in particular we agree that something is very wrong with today's intellectual climate. The *JCS* editors tried very hard to persuade Wheelwell to emerge from her closet, but she refused. We cannot go too deeply into the provenance of this particular article, but her paranoia has a substantial basis: there is indeed a strong bias against feminist, postmodern and social constructivist perspectives in many science workplaces, and it appears to be true that her career as a 'science professional' could be seriously damaged if her identity were revealed to her co-workers.

Evidence to support this can be found in some other complaints that we received about Wheelwell's commentary. Some science professionals have condemned *JCS* for publishing this sort of material at all, signed or unsigned, one of them claiming that (1) referee standards in the humanities are 'abysmal', and (2) articles like Wheelwell's, and everything else of a similar character, are 'on a par with reports of alien abductions'.[1] This reaction resembles the rhetoric in another skirmish of the science wars, the infamous 'Sokal affair'.[2] Alan Sokal, a professor of physics at New York University, submitted a paper titled 'Transgressing the Boundaries: Towards a Transformative Hermeneutics of Quantum Gravity' (Sokal, 1996a) to the well regarded critical studies journal *Social Text*, containing some deliberately meaningless (but very finely crafted) material as a trap; the editors requested changes, but Sokal refused most of them, and the paper was published in a special issue of that journal aptly entitled 'Science Wars'. In a subsequent publication (Sokal, 1996b), Sokal described his hoax as an 'experiment' which proved that intellectual standards, including refereeing, are abysmally low in parts of the humanities compared to those in the sciences,[3] and he launched a vigorous attack against social studies of science, and in particular its use of relativism, which has since been joined by many others, as illustrated for example in the witty quip by John Watson quoted with approval by Ramachandran in the interview below: 'There are only molecules — everything else is sociology.'

There is indeed a war going on, and scholars in the humanities are working hard

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[1] The fury of some correspondence is really shocking — the *JCS* editors even received a sort of death threat from one especially disgruntled correspondent.

[2] This is very well documented on the internet, e.g., see Kuroki (2000), which also has links to many other interesting sites.

[3] However, it does not seem very responsible to say that a single contestible data point constitutes a valid experimental test of a highly controversial hypothesis.

to defend their turf.[4] The war is made more difficult and confusing by the failure of some to clearly distinguish among different classes of participant. In particular, many scientists fail to appreciate the huge diversity of methods used in the humanities, and therefore often impute the shortcomings of one method to work that was actually done using a quite different method. For example, deconstructionism, postmodernism, and feminism are very rare in the sociology of science; see below for further discussion.

Contrary to general accusations about low standards, Wheelwell's article was in fact sent to at least half a dozen well qualified referees, which is very unusual and demanding for a piece of light-hearted peer commentary. Most of the reviews were positive, some very much so. Among their critical suggestions were changing the title, and toning down some of the rhetoric (both of which were acted on by the author). So, after much discussion and hesitation, we decided that on balance, and despite our own distaste for pseudonymous publication, we would publish this piece in its revised form. A major consideration was the lack of any other commentaries that raised similar issues. We felt it important to include a commentary reflecting some of what is currently hot in the humanities, especially since the target article could be construed as an implicit repudiation of all humanistic approaches to understanding the arts. Moreover, controversies like that engendered by the Ramachandran and Hirstein article are very much part of our current cultural situation, and we think *JCS* should provide its readers with as wide a range of responsible viewpoints as possible on important issues such as the nature of art.

Also relevant is the fact that it has long been common for scientists to publish their more light-hearted work under a pseudonym, perhaps the best-known example being the nineteenth-century mathematician, the Rev. Charles Dodgson, aka Lewis Carroll. In addition, it is far from unknown for scientists to publish serious work under a pseudonym, e.g., the 'Student' of the well known 'Student's *t* distribution'. Also, a recent issue of *Cybernetics and Human Knowing* includes a conversation between two authors with no attribution, and even no punctuation, so that it is impossible to tell who is saying what (Steier & Ostrenko, 2000). When the publisher suggested to the editor that this might confuse readers, he replied that the authors 'did not want to appropriate individual ownership of any of the text'. The humanities are historically even more open to pseudonymity. For example, the well known philosopher Søren Kierkegaard used multiple pseudonyms during the 1840s in order to creatively explore and publish a variety of opinions without having them definitely attributed to him. He guarded his freedom by officially denying authorship for several years, despite his identity becoming an open secret in Copenhagen literary circles.

The case against pseudonymity is therefore far from open-and-shut, but in response to the strongly expressed criticisms received, the editors have decided that they will in future require all contributions to be signed with the author's own

[4] An especially good defence appears in a short article by Harry Collins in *Physics World* (Collins, 1998). Collins is one of the sociologists of science who was particularly criticized in earlier battles of the science wars.

name. It is highly ironic that this change of policy prevents Wheelwell from responding to the attacks and insinuations against her.[5]

To some extent, the science wars concern differences in the style of language used, constituting another kind of obstacle to communication across disciplines. The restrained, formal 'journalese' that is mandatory for science periodicals is inconsistent with the playful use of words that is becoming increasingly common in literary and cultural criticism, among other areas. Although the editors require that all articles submitted for publication in *JCS* should be 'accessible to a multi-disciplinary audience' we do not insist on any particular style, with the inevitable result that some readers will experience a certain amount of discomfort in this respect.

Relativism and Sociology

A key issue in the science wars has been social relativism, also called social constructivism, which in an extreme form holds that all knowledge, and hence all reality, is socially constructed. This extreme doctrine, known as *philosophical relativism*, although possible as a philosophical position, has few if any adherents. Sociologists of science instead embrace a position known as *methodological relativism*, under which they are prohibited from taking sides in the (typically contested) processes that they study. This important distinction is carefully described, for example, in Collins (1998), which notes that it is inappropriate for sociologists to assume that they know more (e.g.) physical science than the physicists they are studying, for example, in current disputes about the measurement of gravity waves. Sociologists should, in the pithy phrase of Bruno Latour, 'follow the actors', that is, study the way information is communicated among participants, how disputes get resolved (if they do), etc. However, it is common for scientists to conflate philosophical and methodological relativism, and then criticize sociologists of science as if they were philosophical relativists, e.g., Sokal (1996b).

Methodological relativism should also be distinguished from ideas like postmodernism and deconstructionism, which appear in quite different areas of the humanities, including cultural studies and literary criticism. Although postmodernism is a much overused term that has been given many different meanings, we can differentiate at least a *weak postmodernism* which calls for supporting cultural diversity within reasonable bounds, and a *strong postmodernism* which asserts that all cultural and ethical positions are equally valid; proponents of the latter view are rare, but many intermediate positions can be found. Deconstructionism is a method of textual analysis which aims to show the cultural relativity of texts. Both these movements are more heavily advocated in France than other countries, and neither is likely to be embraced by most sociologists of science.

The area variously called critical theory, critical studies, and even just 'theory', largely consists of left leaning, even neo-Marxist, practitioners of cultural

[5] Ironic because one argument *against* pseudonymous publication is that it inhibits the free flow of academic discourse.

studies, who may or may not embrace postmodernism and/or deconstructionism. The journal *Social Text* that Sokal hoaxed falls in this category. Feminism is of course an entirely different enterprise, an advocacy position having to do with the role of women in society,[6] and sociology of science is very different from any of these.

Since these areas of the humanities are all relatively recent, and bear little resemblance to the classical physical sciences, it is all too easy for scientists to lump them together, and then dismiss those things they don't like by identifying them with rather different things that almost no one likes. But this is wrong; it only creates further confusion and inhibits constructive discussion. For example, from her writings, one can infer that Wheelwell is a committed (but not radical) feminist, a weak postmodernist, and an enthusiastic text-analyst, but certainly not a philosophical relativist, and (contrary to repeated assertions by Ramachandran) not a sociologist; similarly, Wallen is not a sociologist, but an artist.[7] It also appears doubtful that Wheelwell's feminism would include some of the positions attributed to her by Ramachandran.

It is interesting to contrast the slants on relativism discussed above with that of Thomas Kuhn's well known theory of scientific paradigms (Kuhn, 1956). Kuhn argues that research questions, methods, and results have validity relative to a paradigm during periods of normal science, and are only seriously questioned during periods of crisis. If a crisis is resolved by introducing new questions and new methods, then a revolution is said to have occurred. This view of the historical development of science is very far from philosophical relativism, and is also quite distinct from methodological relativism, but it was an important precursor of modern sociology of science, such as the actor-network theory of Latour and Callon.

But what has all this to do with consciousness? Many participants believe that there is now a crisis in consciousness studies, and some claim that a Kuhnian paradigm shift is underway. The old separation between mind and body no longer seems tenable, and much that was based upon it is being superseded, especially in philosophy, but also in more experimental areas; e.g., see Núñez and Freeman (1999). In psychology, despite early work of William James (1912), conscious experience was excluded as an object of study through much of the twentieth century, but it is now making a comeback, aided by exciting new techniques like fMRI. The possible role of society in consciousness is being seriously investigated, and attempts are even being made to include data gathered from religious traditions. Meanwhile, standard reductionist science is making rapid advances in many relevant areas. As a result, there is a wide ranging and intense debate about allowable questions, methods, and results in consciousness studies. The quality and value of this debate will be greatly enhanced if the participants are able to make elementary distinctions among kinds of relativism like those discussed

[6] There are clearly many different variants of feminism, but the editors are not sufficiently familiar with this area to attempt a taxonomy.

[7] It appears that calling someone whose opinion you don't like a 'sociologist' has become a new kind of weapon in the science wars.

above, and if they avoid misleading accusations based on conflating such distinctions.

Where We Stand

It should by no means be thought that the editors of *JCS* agree with all the critics of Ramachandran and Hirstein, let alone with those (if there are any) who claim that the results of science are just opinions. On the contrary, we applaud the insights of Ramachandran and Hirstein (1999), and we welcome the important additions and clarifications contained in the Ramachandran interview in this volume, such as the 'three corners' (functional logic, evolutionary rationale, and neural anatomy), and his detailed reply to Wheelwell's objection to identifying galvanic skin reponse with aesthetic response. Moreover, we strongly re-affirm our belief in the value of careful experimental science for a wide variety of questions, including the appreciation of art. On the other hand, we oppose attempts to exclude insights from the humanities, including sociology, philosophy, art history, and even literature. We support efforts to integrate the sciences and the humanities, and we regard both the Ramachandran interview and the Wheelwell commentary as steps in that direction. Given the current highly polarized situation, the fact that we have been criticized both for publishing Ramachandran and Hirstein, and for publishing certain commentaries on it from the humanities, suggests that we are doing something right!

Meanwhile, whatever problems we face in achieving it, we remain committed to the editorial policy set out in our first issue: that *JCS* should conform to the highest academic standards and that, without dictating the direction of discussion (and sometimes even taking great pains to improve papers with the content of which we disagree), the editors prefer a broad conception of consciousness studies, and of consciousness itself.

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