

## Perverting the scientific gaze

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A desire to describe my lover's body in the most intricate detail leads me to a clinically oriented text (Moore 1999) and an atlas of anatomy (Netter 1997). I search for the name of the muscular fascia creating the ripples on her outer labia only to find that they are not muscular after all. To my surprise I find that it is not just the reproductive part of female genitalia that is described in detail (as some feminists have claimed), but also the pudenda. A sudden urge to know which nerves are involved when I exhale on the skin and involuntary contractions follow, inspires me to read through increasingly uninspiring pages. By now my eyes are glazed over and I am reminded why I was turned off science in my first year at university.

To study natural sciences is to vacate the I and to mindfully repeat after the scientists. While the complexity of the material is too great to allow mindlessness, there is absolutely no room for critical thinking. Instead there is the lure of the scientific fraternity and the interpellation as part of an elite. In relation to other forms of knowledge natural sciences is awarded a superior place as the most objective, hence most scientific. In relation humanities and social sciences are dismissed as too subjective to lay any truth claims. Natural science does not reflect on its own assumptions – this would be unscientific – and students of science are not trained to do so.

The assumptions that form the sheer unquestionable common sense of those inside the science box are:

- Science is coherent, objective, unproblematic and well-bounded
- Science is central to decisions about practical action in every day life
- Science is unencumbered by social and institutional commitments
- Uptake of science is determined by intellectual ability
- Ignorance on the part of the public has to be remedied
- Unscientific behaviour results from the failure to apply scientific knowledge
- Scientific thought is the yardstick with which to measure the validity of everyday thinking. (Ravetz 200:130).

Notions of Plato's cave and the tabula rasa of the enlightenment therefore still prevail, complicating the paradigmatic disjunction between current practices of science and philosophy. Scientific method in its most disembodied form begins with Kant's humanist subject of modernity, with what Foucault (1970:308) has described as the impossible paradox of a being who's sovereignty lies in its limitations; a being who is awarded with transcendentalism in the exact moment that it is established as primary object of knowledge. Post structuralist critiques of this construction of rationality are now so common place in social sciences and humanities that they barely require repeating. Science as yet remains oblivious to the notion that objectivity and rationality have never been possible and that the entire body of constructed knowledge based on these assumptions therefore called into question when measured by its own standards.

Epistemologically speaking, science has therefore become a prime example of what can be described as organised ignorance (*cf.* Foucault 1977 & 1981).

Perhaps it is unfair to say that it has remained wholly uncritical.

From within the field of natural sciences recent reflections have led to a distinction of applied science (lowest on the level of decision stakes and systems uncertainties), professional consultancy and (highest on the level of decision stakes and systems uncertainties) what is termed as post normal science (Ravetz 2005:18). Applied science routinely involves the mere technical application of what is considered scientific to practical situations. Where the expertise of the generalist ends, the specialist is called on to resolve problems that require more detailed knowledge and involve higher procedural risks. Post normal science is necessitated by pressure from informed communities when there are safety or policy issues at stake. It recognises the inappropriateness of the old scientific model while including the necessity for dialogue on the widest possible scale.

McKelvey (1999:9) differentiates three post positivist epistemologies (scientific realists, semantic conception of theories and evolutionary epistemology) that collectively “turn the search for truth on its head – instead of expecting to zero in on an exactly truthful explanation, science focuses on selectively eliminating the least truthful explanations”. Complexity thinking or complexity theories seem to provide one of the most critical platforms from within science. It is critical of over simplifications, eg the naïve belief in the ontological status of boundaries which enable scientists to buy into their models as true representations of what is. From those scientists who even know about complexity thinking ( because for the majority the focus is still on the quantifiable and mathematisable mapping of the real world), there is a sense that this is a fad that does not have to be taken seriously at all.

Scientific arrogance is an effect of its maturity rather than its origin. When Evelyn Fox Keller (1985:36) criticises the arrogance of the scientist by simultaneously appropriating and denying the feminine in relation to the procreative function, she describes a characteristic of modernity. Prior to the (philosophical) death of god, the scientist was receptive and creative. Even in his most masculine form, epitomized by Francis Bacon’s description as the mind that has to seduce, shape and conquer nature, reverence for the procreative function of god remained part of the relationship. In modernity the scientific subject position thus embodies the desire to appropriate and control the feminine both within itself and in its metaphorical extension, nature. Yet the feminine remains unknowable within ontological and epistemological limits of philosophy. Through the masculine signifying act the feminine is constructed to give back a (false) reflection and guarantee of phallogocentric self-sufficiency. The feminine is therefore constructed as a compliment to constructed masculinity in a one directional power exchange of subject actively observing passive objective that cannot know itself, yet provides the key to knowledge about the knowing subject.

Ocularisation exploits the one sensory dimension that requires no active participation. No physical boundaries need to be crossed, no feedback is required, its mere being enables observation. Knowledge acquired as such can also not be challenged. This logic,

the logic of phallogocentrism, therefore, setting up man (transcendental) as unified, self-controlled centre of the universe defining the rest of the world as his other to have only meaning in relation to him (Jones 1985: 87). Conceptually blind to his own method, the positivist scientist is folded in on his ocular gaze.

Phallogocentric philosophy as well as natural science have been criticised implicitly and explicitly by feminists. But feminism has not gone far enough. Initiated in the moment of conceptually separating sex and gender, nature and culture, what just is and what is constructed, feminism set about to criticise the way sex differences are fictionalised as gender, leaving what they considered biological fact uncriticised, and leaving the question of what sexual difference is. In effect this is to leave positivism uncriticised.

To think of gender in terms of sex, as though it should in some way be influenced by it, to not ask with Christine Delphi (1993:3) why it should give rise to any sort of social classification at all is to remain within the confines of uncritical thinking. It is also to ignore the phenomenon that there is, since the last decade of the twentieth century – despite 20 years of academic feminism in Anglo-American countries and 10 years of constructing queer theory into an academic movement – greater plasticity of sex than of gender. Sex changes, even F2M have become easier to achieve than to accommodate varieties of sex differentiation, gendered autoinscriptions and normatively disjunct sexual orientations into our postmodern cultures.

Sex is not given but it is already an interpretation of variety among all animal species. The current interpretation of biological sex as an absolute dichotomy of sexual differentiation is introduced at the time of the enlightenment. At this time natural science started surpassing the dominance of mathematics in sciences. A different body perception emerges in the early eighteenth century. Up to that point the body was understood as controlled by its own fluids in constant flux, continuously changing form and exiting not only through the openings we have come to accept in modern science, but through the entire skin. The skin was perceived as a porous layer with a multitude of possible openings, a place of permeability and mysterious metamorphoses. It could leak blood, pus, urine, phlegm or sperm. No distinction existed between normal or pathological excretions only efficacy for body; therapeutically clearing path for flow, unifying, inside conceived as unstructured, osmotic, invisible processes. (Benthian 2002:39)

Ocularisation is strongly linked to the transition to the body image typical of modernity and is inextricably bound to the medicalised body. To make vision inside possible, the taboo of cutting open dead bodies for the purposes of visually exploring them had to be overcome. Before this had to happen, Benthian (2002:41) describes a shift in the construction of skin, not as porous and permeable but now as closure and boundary. Only after the skin became the demarcation of the body from the world, that which keeps the body out of harms way, did anatomical dissection proper begin. Simultaneously the understanding of pathology was reconstructed as not arising from humoral imbalances, but external attacks of pathogens on vulnerable bodies. Now able to observe the internal organs, a different understanding of bodies became possible. Through the next centuries

this continued through development of microscopic observations, radiography and ever more sophisticated devices for medical observation.

Is it coincidental that the dual sex model of modernity replace the single sex understanding of bodies? In the single sex model female and male bodies were seen as quantitatively different rather than displaying qualitative difference. The cervix and vagina were perceived as an underdeveloped penis, women were believed to produce semen (today the production of ejaculate is not fully explored in medical texts) and menstrual bleeding was simply continuous with all other body fluids that needed to exit in order to maintain healthy balance (Nicholson 1994:86-87).

The rise of the medical objectification of bodies led to a relegation of the hermaphrodite to a single “true” sex in the eighteenth century. Instead of understanding the intermingling of two sexes present at once, medicine now began to scan the ambiguous appearances of hermaphrodites for clues to find an essence. Male and female could no longer be tolerated in the same body. When it appeared, it was interpreted as accidental, and the role of the physician was to correct the mistakes of nature. The choice of indeterminate individuals to simply live as they were, became increasingly limited. Their objectification was an indication of the power assigned to the developing scientific expertise in biological theories of sexuality. Knowledge and expertise served juridical power and shifting forms of administrative control over citizens of the modern states (Foucault 1980:vii-viii). The direction of power and control as no longer externally directed but penetrated the limits of the body to begin to include corrective surgery, social engineering on the micro level of the family unit and corrective therapy which at present remain the protocol in the numerous instances when hermaphrodites are born.

Medical science was constructed, or at the very least re-constructed to serve the state instead of a transcendental scientific ideal. A systematic and highly detailed description to the strategic establishment of medicine as a normalising power is made by Jacques Donzelot (1979) in his study on the policing of families that covers the same period. In the transition from a feudal state to capitalism, in the perceived slippage of control over individuals away from the state, medicalisation of the body and specifically establishing a sense of cooperation between mothers and family doctors became a strategy to ensure societal cohesion.

A more static economy of power in the medical relationship, as described by Bordo(2004:67), may be read as the sedimentation of these shifts into what is currently the accepted medical model. The body is the passive object on which the mind of the scientific subject performs its expert analysis. Deciphering the disorder inscribed on the passive tablet of the body by sifting through the clues at hand primarily involves determining the cause of the disorder and treating it. Although interpretation of symptoms may be involved, only highly trained specialists are capable of these interpretations. One of the tasks of these professionals is to disregard the sense that patients make of their own illness and objectify bodies specifically in terms of signs and symptoms. The neutrality and objectivity of medical science is therefore constructed to serve a certain interpretive model.

To apply Butler (1993:224) to the body constructed by natural science, specifically by medical science: “it is not only a question of how discourse injures bodies but how certain injuries establish certain bodies at the limits of available ontologies”. If feminism bounces off the surface of science perhaps the presence of the queer body and its ontologically queer insistence on a positive (not positivist) epistemological relationship to the self that will push the limits of natural science. Perhaps in living the queer disjunction from the normative heterosexual body that has been constructed as natural for its biological complementarity of male and female, the rigidity of current scientific models of sex can be blurred sufficiently to force scientists to notice the subject they consistently objectify.

Let me leave this paper that has been experimental searching, scratching an unyielding surface, with the same lover’s favourite Nietzsche quote: “We are scientific out of a lack of subtlety”.

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