‘Biology Ideology’- How the Language of Science Shapes Our (Gendered) Lives

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As a child and young man I did not care much for school; as such it is difficult for me to look back at these times and recall important lessons and periods of learning. However, one thing that did stick with me from my compulsory education was a basic understanding of the so-called ‘hard’ sciences. Despite my apparent academic weaknesses, foundational understandings of biology, chemistry and physics have stuck with me. When returning to education as a ‘mature’ student, I found this knowledge to be a useful platform. Studying sports science at Loughborough University reinforced this scientific view of the world. Indeed, using such knowledge to interpret the world proved to be relatively accurate and useful. Such ideas remained relatively uncontested until I began to find sociology an interesting subject. As I became more aware of the social constructionist position, my previously taken-for-granted acceptance of the ‘concrete’ basis of science, in particular biology, as an explanation for human behaviours, began to be drawn into question. An unresolved tension between these two seemingly incompatible narratives remained as I continued my studies. Eventually, during theoretical reading for my Ph. D., I began to see the usefulness of understanding sciences (including sociology) as discourses laden with power dynamics. In what follows, I will draw attention to works that helped me to make sense of such scientific narratives. In particular, I will focus on the science of sex and the ways that certain ‘sports’ are interpreted as supportive evidence for a biological interpretation of gender difference. It is hoped that this brief analysis will be useful as an introductory step in the process of enabling students and teachers alike to critically ‘see’ the place that the language of ‘science’ occupies as a constraining and enabling social frame within contemporary lives.

This invasive scientific discourse forms the basis of notions about the natural difference between men and women (Foucault, 1978; Laqueur, 1990; Lorber, 1992; Oubshroon, 1994; van Den Wijngaard, 1997). For Lorber (1992; 568-569) the origins of a scientific framing of gender can be found within enlightenment thinking: “When scientists began to question the divine bases of the social order and replaced faith with empirical knowledge, what they saw was that women were very different from men in that they had wombs and menstruated. Such anatomical differences destined them for an entirely different social life from men.” Connell (2005; 46) shares this stance, suggesting, “since religion’s capacity to justify gender ideology collapsed, biology has been called in to fill the gap.” This ‘science of sex’ therefore becomes the foundation of *the* dominant classification system within modern societies, thus categorising “the individual, mark[ing] him by his own individuality, attach[ing] him to his own identity, impos[ing] a *law of truth* on him which he must recognise and which others have to recognise in him” (Foucault, 1983; 212). These biological ‘laws of truth’ are then habituated and lived through the bodies, emotions, language, grammar and actions of groups and individuals. Here, then, “western ideology takes biology as the cause, and behaviour and social statuses as the effects, and then proceeds to construct biological dichotomies to justify the ‘naturalness’ of gendered behaviours and gendered social status” (Lorber, 1993; 568). Scientifically framed ‘natural’ gender is then ‘normal’ gender, and such normalisation, as Foucault (1991) reminds us, is a central dimension of power relationships. Here, ‘normal’ requires a connected ‘abnormal’ position(s); this ‘othering’ classifies such ‘unnatural’ identifications as a challenge to the biological ‘facts’ of life.

Notions about sex hormones play a central part in these stories of manhood and womanhood. The examination of testosterone and oestrogen (the so

As Erickson (2005; 224) notes:

We live with science: science surrounds us, invades our lives, and alters our perspective on the world. We see things from a scientific perspective, in that we use science to help us make sense of the world – regardless of whether or not that is an appropriate thing to do – and to legitimize the picture of the world that results from such investigations

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called 'male and 'female' hormones) has traditionally been the reserve of positivistic research within a variety of fields (see Bleier, 1979 and Lacqueur, 1990). In more recent years, sociologically minded researchers have attempted to plot the genealogy of these substances in an attempt to deconstruct some of the power relations that have patterned the generation of such scientific knowledge. As Oubshoorn (1994; 149) notes: "the story of hormones is a story of multiple and mobile power relations." In this regard, van den Wijngaard (1997) has documented the part played by endocrinology in *Reinventing of the Sexes, w*hile Oudshoorn (1994) describes in detail the political and cultural framing of research that produced scientific 'facts' about 'male' and 'female' hormones. More recently, Hoberman (2005) has explored the modern addiction to hormonal explanations of behaviour within *Testosterone Dreams*. Each of these studies has done much to advance our critical understanding of the power dynamics that might shape scientific knowledge of sex, bodies and sex hormones. van den Wijngaard, (1997; 10) sums up a foundational premise of these works: "From my perspective, scientific facts do not emerge from the observation of results of experiments by individual scientists but are established in the interactions between different groups of people interested in a particular subject." What remains relatively underdeveloped within these accounts (less so in Hoberman's) is the interaction of hormonal discourse and the framing of day-to-day life outside of the scientific community. The transfer of knowledge that underpins such public discourse is problematic for van den

This process of simplification and characterisation can reduce the academic subtly and balance of the original research into simplistic binaries. In the case of sex hormones, this reduction of complexity resulted in testosterone being equated with men and oestrogen with women, despite evidence suggesting a far more complex relationship (Hoberman, 2005; Oudshroon, 1994; van den Wijngaard, 1997). Hoberman (2005; 25) describes this process:

The transmission of scientific knowledge into 'hormonal folklore' is then intertwined with assumptions about sex difference, which overrides aspects of the research that do not 'fit' so succinctly within popular discourses about what makes men men and women women. Bleier (1984; 200) insists that such a gendered orientation is socially pervasive: "The historical separation of human experience into mutually contradictory realms, female and male, engendered our culturally inherited dualistic mode of thought, and that male-female dichotomy was built into our ways of perceiving truth." Indeed, sex hormones were subsumed into the male-female binary as supportive evidence of a biological essence: "Both doctors and laypeople have seen *hormones as the wellspring of personality*... One persisting theme has been that hormones are the basis of personality itself" (Hoberman, 2005; 27-28 – emphasis added). Let me further unpack these comments by making reference to the place that certain 'sports worlds' occupy within the maintenance of these narratives.

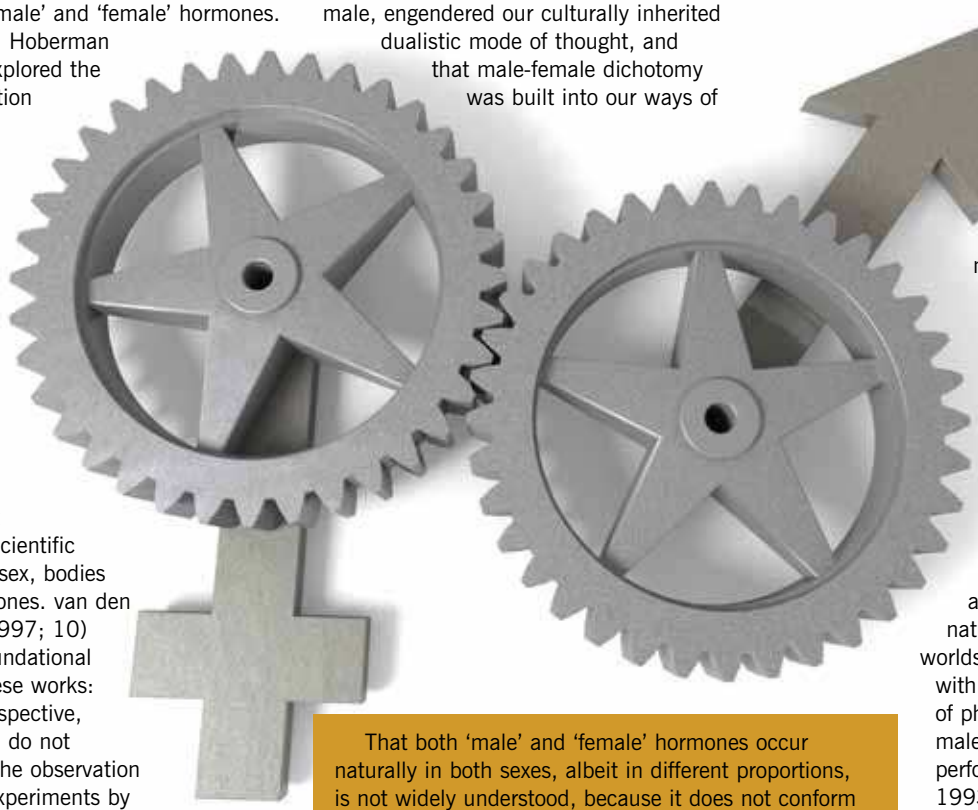
Writing almost twenty years ago, Judith Lorber (1993) described the place of 'sports' within the generation of sex difference. Her focus on 'Biology as Ideology' is as salient now as it was then. Starting out from a position informed by Foucault's (1978) and Lacqueur's (1990) historical analyses of sex, she partially located Western sports worlds within this 'naturalisation' of biological sex discourses. In so doing, she drew further attention to the social construction of the biological categories of 'man' and 'women'. This process of naturalisation has been a theme within the sociological analysis of the articulation of certain sports with gender (Connell, 2005; Lenskyi, 1994; Messner, 1992; Theberger, 1987). As Messner (1992; 67) notes, "males often view aggression, within the rule-bound structure of sports, as legitimate and 'natural'." The assumption therefore tends to follow that sports worlds are social enclaves in which these natural behaviours can be channelled and released in a relatively 'safe' manner. This catharsis model (Lorenz, 1963), which can be traced to Aristotle's writings (Elias & Dunning, 2008 [1986]), has informed much research exploring sport participation (see Dunning, 2003).

This scientisation and connected naturalisation of sports worlds tends to resonate with stereotypical images of physical differences in male and female athletic performance (Lorber, 1993; Pringle & Markula, 2006). If one is compelled to discover it, anecdotal support for biological sex differences can be found writ large on running tracks, soccer fields and boxing rings as well as Sports Illustrated magazine, national newspapers and advertising. For Markula and Pringle (2006), sports worlds can serve to discipline the athlete's body into the 'correct' notions of what is believed to be natural sex differences. However, "disciplined athletic bodies are not 'natural' or 'normal', and there is nothing 'natural' or 'normal' about a body disciplined as feminine or masculine. Femininity and masculinity, like sports skills, are acts of performances that must be learned" (Shogan, 1999; 51). As such, Markula and Pringle (2006, 102) suggest:

In this way, sports worlds, despite substantive links to orthodox gender images, can be sites in which ambiguous and challenging as well as reaffirming gender identifications can be produced (Anderson, 2002; de Garis, 2000;

Wijngaard (1997; 93). She argues;

Generally, when knowledge is transferred from fields where it was developed to be used in other fields, various subtle details are sacrificed. Researchers in one field of study expect unequivocal answers from researchers in another field. Users of knowledge, such as doctors, are, if possible, even more interested in unambiguous information.



That both 'male' and 'female' hormones occur naturally in both sexes, albeit in different proportions, is not widely understood, because it does not conform to the hormonal folklore of our culture, which remains footed in archetypes of hormonally determined masculine and feminine essences.

Peterson, 2003; Pringle & Hickey, 2010). Despite this subversive capacity, evidence for anatomical sex difference in sports performance is an example of the contemporary maintenance of premises about what can be considered possible, permissible and pleasurable for sexed bodies. Such a process enables men and women to enjoy expressions of their gendered sporting bodies, while simultaneously constraining them to a set of practices deemed socially acceptable along prescribed biological lines.

> The disciplinary techniques employed within sport settings, for example, can help to create normalised athletes and champions, but can also produce a multitude of subject positions' such as: losers, benchwarmers, social players, tomboys, queens, sports drop-outs, cheats, the lackadaisical, unfit, unskilled, disabled, injured and, of course, ill-disciplined.

As MacInnes (1998; 67) has argued: "This search for a 'natural' basis to human behaviour is ultimately a search for reassurance and psychic security through the romance of authenticity in a disenchanted world." Furthermore, such knowledge is not simply a resource employed to fit around understanding of the social world, but is in fact a productive force that shapes and frames physical and emotional sensations. In this way, Giddens (1990; 152) reminds us that: "knowledge does not simply render the body more transparent, but alters its nature, spinning it off in novel directions." This process is evident in the 'hormonal folklore' that frames understanding of appropriate gendered behaviours. As Hoberman (2005; 277) argues in connection to the 'male' hormone: "testosterone has infiltrated modern life in ways that often escape both our attention and our censure" (Hoberman, 2005; 277). He suggests that: "testosterone has become a positive and even fashionable concept in public discourse because it conveys the aura of power that is so useful to business and advertising agencies." Such biological narratives "clearly establish the female/male binary with its separate spheres sanctioned by biology" (Woodward, 2006; 34).

Within this abbreviated discussion I have attempted to highlight "the compelling appeal of simplistic biological explanations, especially those that support cultural stereotypes" (Epstein 1988; 3, cited by MacInnes, 1998), and that "not biology, but culture, becomes destiny" (Butler, 1990; 8). It is hoped that the observations and research explored here, can act as a point of departure from which assumptions (such as I made before undertaking my sociological studies) about the often taken-for-granted place the 'hard sciences' occupy as the 'go to' explanation for a whole raft of contemporary problems, issues and phenomena can be critically appraised.

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