

GENETIC SEX: “A SYMBOLIC STRUGGLE AGAINST REALITY?”

-EXPLORING GENETIC AND GENOMIC KNOWLEDGE IN SEX DISCOURSES

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Submitted by Ingrid Holme, to the University of Exeter as a thesis for the degree of Doctor of Philosophy in Sociology, June 2007.

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ABSTRACT

Genetic sex -the apparent fundamental biological cause of the two male and female human varieties- is a 20th century construct. Looking down the microscope, the stained chromosomes are concrete countable entities and lend themselves easily to genetic determinism. As the chromosome composition of a person is generally fixed at the time of conception, when a Y- or X-bearing sperm is united with the X-bearing egg, a person's genetic sex is taken as permanent and unchanging throughout their life. Drawing upon gender theory as well as science and technology studies this thesis explores how our particular construction of the concept of 'genetic sex' relies on four features of biological sex (binary, fixed, spanning nature, and found throughout the body) and in addition proposes one unique feature, inheritance.

The empirical research is based on an analysis of popular science books as well as two case studies of how genes relate to sex determination and development. The analysis of the metaphors used in these books and journal articles reveals how now, with genomic efforts to explore gene expression profiles, there is a shift away from seeing genes as having 'responsibilities' for determining phenotypes towards seeing them play a role along with other genes in genetic cascades where other factors such as timing can be incorporated. The analysis of genomic features such as imprinting and X-chromosome inactivation also provide evidence that such a change should be recognised. Rather than seeing sex in terms of fixed and static differences and similarities, current research offers new ways of conceptualising similarities and differences as dynamic and responsive to environment. This supports wider understandings of 'biology' as relying on the interactions between genetic processes, cellular environment, and tissue environment – in which the social physicality of bodies is important in forming and maintaining a person's biology and genetic processes. Yet as the historical analysis of the shift between the one sex to two sex model indicates, it remains to be seen whether the social sphere will respond by incorporating this new evidence into the tacit, everyday understandings of sex or seek to maintain the binary and fixed relationship(s) between men and women by governing them as males and females.

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ACKNOWLEDGEMENTS

I am very grateful to my supervisor John Dupré and Egenis for their support and encouragement. In particular I would like to thank Paula Saukko for her effort and help with my first publication and Cheryl and Saira for their support. I would also like to thank Darren Shickle for his patience while I combined working and writing the final draft of this thesis.

This Phd is two hundred odd pages of paper and years of my life. Throughout its frustrations I have benefited from various officemates whom I've come to consider exceptional academics. For most in academia there are no clear boundary between work collages and friends, and I have come to value these individuals as friends. Part of this has been connected to the PFGS and I am indebted to the welcoming atmosphere which the annual colloquium offers to nervous presenters.

Early on in this PhD I decided not to deal directly with humans, for someone with a degree in biotechnology they were too messy and the ethics review too long. However recondition, acknowledgement and heartfelt thanks must also be given to the members of the intrsex activist groups who advise me on various presentations. Their willingness to engage with PhD students and researchers, as well as their personal stories has informed this thesis.

I would also like to thank those who read and commented so productively on various drafts including Bonnie, Conor, Kean, Claire, Lena, Mitchell and Desmond. I apologise if the 'clean' version is less amusing without the organism/orgasm and public/pubic 'typos'.

This thesis is dedicated to Jane Calvert –who is an inspiration and mentor to many a phd student.