BOOK REVIEWS


This significant work by Jacques Balthazart has just been published in Oxford’s Behavioural Neuroendocrinology collection. It was first published in French under the title Biologie de l’homosexualité (éditions Mardaga, 2010).

Jacques Balthazart is the director of the Behavioural Neuroendocrinology Research Group, part of GIGA at the University of Liège, and is Associate Professor at the University of Liège in Belgium. If we look beyond ideologically-driven divisions, we can see how complex sexual orientation is, with the contribution of multiple psychological, cultural and personal factors. We also see that the biological aspects of homosexuality have been known for a long time but have been ignored by those who hold that this is a purely psychological phenomenon; and we see that these aspects are difficult to incorporate into an overall vision of the subject. Drawing from his own work and from a wide-ranging review of the literature, Jacques Balthazart provides us with an updated view of knowledge in neuroendocrinology of sexual orientation, and the associated biological factors.

Balthazart first discusses the difference between "orientation" and "preference" when applied to sexuality: "These two terms have different connotations, even if users of the terms are not always aware of it. Sexual orientation generally implies that homo/heterosexuality is primarily the result of biological factors, while sexual preference suggests that homo/heterosexuality is a lifestyle which is learned, or indeed chosen, more or less deliberately at some point in a person’s life. It is possible, or indeed likely, that both mechanisms are involved to various degrees". The biological literature in this area shows that a significant proportion of this primary determinism is the result of biological factors that are present before birth, with the following alteration: "Nothing is acquired, nothing is innate, everything interacts".

Psychologically-based theories (primarily the Freudian construction of homosexuality) have never been confirmed experimentally. The results of 50 years of research in biology, however, show clearly that babies do not have neutral sexual orientation at birth. The baby has a genetically-determined sex, and as a result of this is exposed to sexually-differentiated concentrations of sex steroids, and consequently to possible variations in orientation as a function of the specific influence of these steroids (to a greater or lesser extent).

Homosexuality is therefore associated with many other traits, which cannot be the result of a lifestyle choice (nuclei of the preoptic area, nucleus of the stria terminalis and the ventromedial nucleus of the hypothalamus, which are more developed in males than in females, and vary according to sexual orientation). Several of these characteristics suggest inappropriate masculinisation in homosexual men and hypermasculinisation in lesbian women. Embryonic hormones may have predisposed these individuals to develop a given sexual orientation. It is reasonable to believe that these prenatal hormonal influences do not constitute determinism in the literal sense, but that they are an element of sensitisation which can later interact with the environment during the period in which sexual orientation is finally determined.

Very many factors can contribute to the determination of sexual orientation, and these cannot now be ignored. There is a much higher degree of similarity between the sexual orientation of identical twins than there is with fraternal twins. In addition, homosexuality appears to be partly transmitted down the maternal line. A male homosexual is more likely to have homosexual male older relatives on his mother’s side than on his father’s. It has also been shown that the transmission of male homosexuality down the maternal line is associated with the transmission of genetic markers that are situated in the q28 region of the X chromosome. Other genetic markers of male homosexuality have also been identified on chromosomes 7, 8 and 10. It is also known that the probability that a boy will be homosexual increases by 33% for each older brother he has by the same mother. This might suggest that the mother is gradually immunised against masculine antigens, the identity of which is not yet known.

It is now very important to understand these factors, which have not all yet been identified, in order to obtain a more comprehensive picture of the determinism of sexual orientation, which is probably predetermined before birth, and then organised as these initial factors interact with the individual’s environment and personal narrative.

P. Brenot (MD, PhD)
54, rue de Prony, 75017 Paris, France
E-mail address: phlavis@gmail.com
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