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Hormonal influences on sexual inversion: a dual inheritance model of Proust's homosexuality

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A prevalent view among psychiatrists, literary critics and some social scientists is that male homosexuals 'tend to have domineering, possessive mothers who, from infancy onwards, smother their sons with maternal solicitude, keep them tied to the proverbial apron-strings, and crush their early attempts to assert masculine independence' (West, 1977; p. 86). Freud believed that male homosexuality was caused by an unresolved Oedipus complex, exacerbated by an excessively doting mother and a condemnatory, cold or weak father, in which heterosexual feelings aroused such intense incest guilt as to drive the sons to seek male sexual partners. Examination of recent biographies of prominent homosexuals suggests that, while the emotional link between son and either mother or mother surrogate is often strong, the Freudian structure of relationships is generally absent (Holroyd, 1967; Horley, 1976; Furbank, 1977; Stewart, 1977; Carpenter, 1981; Zweig, 1984).

Probably the most definitive observational study of homosexuality in existence, a book which was headlined on the front page of the *New York Times* when it appeared in 1981, is *Sexual Preference: Its Development in Man and Woman* by three associates of the Alfred C. Kinsey Institute of the University of Indiana, Alan P. Bell, Marvin S. Weinberg and Sue Kiefer Hammersmith. This work summarizes the results of interviews of 979 homosexuals and 477 heterosexuals in the San Francisco Bay area in 1969–70, covering 200 questions and lasting three to five hours. Examining practically every familial, environmental and psychological characteristic that social scientists had pinpointed as possible causes of homosexuality, the authors concluded:

> No particular phenomenon of family life can be singled out, on the basis of our findings, as especially consequential for either homosexual or heterosexual development . . . ; indeed homosexuality may arise from a biological precursor . . . (pp. 191–192). [And again] . . . our findings are consistent with what one would expect to find if, indeed, there were a biological basis for sexual preference . . . (p. 216).

This evidence has unfortunately had little impact on the world of the humanities which, as the late Sir Charles P. Snow observed, is lamentably ignorant of and at odds with science. Literary critics and biographers tend to concentrate on the parent–infant relationships of their homosexual subjects. They evince more interest in Oedipus than in hormones and in Electra than in endocrinology. A host of unverified theories, spawned

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in part by Freud, continues to cause parents of homosexuals needless anguish and guilt feelings.

The conventional view of Marcel Proust's homosexuality was expressed as follows in George D. Painter's standard biography:

> Yet he [Proust] was always conscious of belonging, thanks to his mother, to two great proscribed nations, who once lived in neighboring regions, till the wrath of God scattered them over the face of the earth; for her blood made him a tribesman of Abraham, her over-anxious love a native of the Cities of the Plain (Painter, 1959–1965).

Professor Günter Dörner of the Humboldt University in East Berlin advanced a very different causal explanation for homosexuality. In a landmark 1980 article, he pointed out that animal experiments have shown that

> the higher the androgen (testosterone) level during sexual differentiation of the brain, the stronger, regardless of the genetic sex, was the male-like and the weaker the female-like sexual behavior in adulthood. In view of these findings, we suggest that sexuality can be based on different degrees of temporary androgen deficiency in males and androgen excess in females when they occur during brain differentiation ('Sexual differentiation in the brain': Dörner, 1980; p. 357).

The critical period for determination of sexual orientation in humans, Dörner found, was 'between four and seven months of fetal life' (Dörner, 1980; p. 371).

Experimental work on rats has reinforced Dörner's theory. At least one of these experiments has shown that barbiturates (normally used as sleeping pills) and some antibiotics will prevent the masculinization which would normally occur when the female rat fetus is injected with androgen (Money & Ehrhardt, 1972). Professor Ingeborg Ward of Villanova found that she could cause 'demasculinization' of male rat progeny by subjecting their mothers to the severe stress caused by intense light and physical constraints during the crucial 14th through 21st days of gestation (cited in Durden-Smith & deSimone, 1983; pp. 128–129). 'Deprive a male rat of male hormones and later give it estrogen and it will behave as a female', Professor Roger Gorski of the University of California (Los Angeles) observed (quoted in Durden-Smith & deSimone, p. 116). The Norwegian researcher and veterinarian, Professor Weiert Velle reported similar findings (Velle, 1982).

Comparable experiments on human beings are obviously impossible. However, there is intriguing observational evidence in favor of Dörner's hypothesis. In 1975, he found that homosexual men, injected with estrogen, showed a sharp increase in progesterone levels (a female reaction), whereas heterosexual men had no such reaction (Günter Dörner *et al.*, 1975). Analogous reactions to estrogen were found in lesbians and female to-male transsexuals (West, 1977; p. 73).

A sociobiological mediation of neuroendocrinal levels is indicated by a study by Dörner and seven associates published in 1980. They ascertained the year of birth of 794 homosexual men who had reported in recent years to German sexologists and veneral disease clinics.

The peak year of birth for these inverted males was 1944–45. This was the last year of World War II, a time of incendiary bombing of German cities in which hundreds of thousands of civilians were slaughtered. These holocausts raged unchecked and the survivors were often made homeless and turned into paupers.

Reading from Dörner's bar graph, one can conclude that about four times as many homosexuals were born in 1944–45 as in the prewar years 1934–35 through 1938–39 and about three times as many as in the years of post-war stability after 1950. The years bracketing the German holocaust year, 1943–44 and 1945–46, which were also massively

stressful due to saturation bombing, military defeat, hunger and mass rape in Soviet-occupied areas, produced about twice as many male homosexuals as the years of peace.

The inference from these figures is that conditions of extreme terror can sufficiently inhibit testosterone formation in the male fetus to double, triple or quadruple the number of homosexuals born. To quote Dörner again:

> . . . I am forced to conclude that male homosexuality is the result of permanent neurochemical changes in the hypothalamus effected by reduced levels of testosterone during fetal life. This produces a feminization of the brain which is activated, as far as sexual behavior is concerned, at puberty. One risk factor—clearly, I think—is stress, which causes the production of substances in the adrenal gland that depress testosterone levels in the male fetus. And there may be other factors (statement to Durden-Smith & deSimone, 1983; p. 129).

Studies similar to Dörner's of the number of male homosexuals born in London during the peak year of World War II bombing, in The Netherlands during the 'hunger year', and in Tokyo, Hiroshima and Nagasaki during 1944–45 would serve to strengthen or weaken Dörner's argument. Unfortunately, no such studies appear to be available.

In another study, Dörner and associates queried 72 bisexual and homosexual men about maternal stress during their fetal life. About a third reported that their mothers, while carrying them, had suffered such severe stressful conditions as traumatic rape, death of spouse or desertion by their lovers. Of the heterosexual control group, none reported severe maternal stress of any kind.

There is at least one prominent case in which this sociobiological hypothesis, if true, would invalidate an established criterion of literary criticism. That case is Marcel Proust. During the critical period of his mother's pregnancy from the standpoint of fetal sexual orientation, Jeanne Weil Proust was subjected to overwhelming stress.

A cultivated, beautiful and intelligent Jewish girl from a Lorraine banking family, she married Dr Adrian Proust, a 36-year-old Catholic physician of distinction on September 3, 1870, the day after Napoleon III surrendered his army of 80,000 men to the Prussian invaders.

Despite an age difference of 15 years, the Prousts had an unusually happy marriage. The marriage produced two sons: Marcel, a novelist whose work can be understood only in terms of his obsession with homosexuality, and Robert, who became a surgeon, married, had children and had no relationship to the world of Sodom (for the obsessional character of Proust's attitude, see Gide, 1951).

Jeanne Proust spent the first seven months of her pregnancy in the couple's Paris house not far from the Madeleine. She endured the terrible Prussian four-month siege of Paris in which cats and even rats were served in restaurants. On March 28, 1871, the fifth month of her pregnancy, the Paris Commune was established. Revolutionary clubs debated shooting the rich and all who shirked fighting on the barricades. In May, French government forces invaded Paris. During this 'bloody week', an estimated 25,000 Parisians were killed in street fighting. The Communards torched public buildings and shot hostages; their opponents were equally ruthless.

Jeanne Proust lived in the midst of these appalling experiences. The culminating shock was her husband's narrow escape from death by gunfire as he was walking to the Charité Hospital where he attended the wounded and dying. Jeanne was so overcome that she had to be moved to the house of her uncle, Louis Weil, in Auteuil. It was here that Marcel was born. But the evacuation to a safe haven had occurred, if Dörner's hypothesis is correct, too late to normalize the sexual orientation of the future literary genius.

Neither Dörner nor, as far as I know, any other researcher has attempted to apply the theory that sexual orientation can be permanently fixed by maternal stress at the critical period in fetal life to Marcel Proust or to any other historical figure.

Are there other prominent homosexuals whose sexual orientation may have been determined by extreme stress or terror during the mother's pregnancy? A preliminary search among literary figures was unrewarding, probably because biographers would have seen no reason to direct their attention to their subjects' fetal life.

What was needed were situations in which the mother was as historically eminent as her son. This tended to narrow the quest to royalty. Probably the best known of England's homosexual kings was James I. The pregnancy of his mother, Mary Queen of Scots, provided an almost perfect illustration of the relationship between maternal terror during the critical period of fetal life and sexual inversion of the son.

On March 9, 1566, toward the end of her fifth month of pregnancy, Queen Mary was having a small supper party in her apartments at Holyrood with five of her advisors and confidants, among them David Riccio, her secretary, musician and 'most special friend'. Without warning, the Queen's husband, Darnley, accompanied by a band of armed Protestant nobleman and their retainers, burst into the chamber. Patrick, Lord Ruthven, 'burning-eyed and pale', a reputed warlock, demanded that 'yonder man, David, come forth of your privy-chamber where he hath been overlong'. The Queen asked Ruthven sharply whether he had taken leave of his senses and demanded that Darnley tell her whether he was involved in this intrusion, to which Darnley gave an evasive reply, There was a scuffle in which a table was overturned and the Queen was physically restrained. As Antonia Fraser, describes the scene:

> Finally the fingers of the little Italian (Riccio) were wrenched out of the queen's skirts, and he was dragged, screaming and kicking, out of the supper-room, across the bed-room through the presence-chamber to the head of the stairs (Fraser, 1970; p. 252).

While the Queen heard him screaming 'Justizia! Sauvez ma vie, madame, sauvez ma vie', he was set upon and butchered with between 53 and 60 dagger blows.

Mary, who loathed physical violence, concluded immediately and was to believe for the rest of her life 'that Darnley, her own husband, had intended to compass her own destruction and that of her unborn child', but had been too weak to carry out his purpose. Darnley's motive, Mary believed, was ambition. On Queen Elizabeth's death without issue, Darnley would have been the heir to the English throne provided Mary and her child were murdered.

With the unarmed Riccio slaughtered, Mary 'turned furiously on Darnley, now left with her in the supper-chamber and upbraided him' (Fraser, 1970; p. 254). A certain Lord Lindsay, one of the murderers, threatened the Queen that he would 'cut her in collops' if she called for help. ('Collops' meant small slices of meat in Scottish sixteenth century usage.)

Although she felt a cold, implacable hatred for her husband which would last until his death, Mary allowed the weak and treacherous Darnley to beg her forgiveness the following morning, pretended to forgive the conspirators, convinced Darnley that they would turn against him at the first opportune moment, and escaped Holyrood with him 52 hours after the murders. The ride to the safety of Dunbar Castle began at midnight:

> The ride was of necessity fast, and as furious as possible. Even so, Darnley, in a panic of fear at being hunted down by the men he had so recently betrayed, kept spurring his own horse and flogging that of the queen, shouting: 'Come on! Come on! By God's blood, they will murder both you and me if they can catch us'. Mary pleaded with him to have regard for her condition, at which Darnley only flew into a rage and exclaimed brutally that if this baby died, they could have more.

Queen Mary was exposed to these terrifying experiences in the period which Dörner considers critical to the sexual orientation of the human fetus. Maternal fear and stress stimulate adrenalin which blocks androgen formation by the fetus. James I's homosexuality was thus made three or four times more probable according to the Dörner theory.

What are some of the possible implications of this hypothesized causal sequence?

We cannot infer that either *all* or *most* male homosexuals are the products of maternal stress during the critical period. The implication is merely that the primary biological predisposing factor is androgen deficiency (or in the case of lesbians androgen excess) during this period. The possible causes of imbalance between genetic and hormonal sexuality are no doubt multiple and many may remain undiscovered.

The most obvious conclusion is that a large body of literary criticism and biography devoted to the alleged relationships between mother love and sexual inversion must be seriously challenged or regarded as an example of the attraction which unproved and unprovable theories have for the unscientific mind.

Research into the intra-uterine lives of eminent homosexuals is needed as a possible means of broadening our understanding of sexual inversion.

There is also strong evidence that a predisposition to homosexuality may have a genetic causal component. As early as 1952, Professor Franz Josef Kallmann reported that the concordance rate for homosexuality was several times higher in monozygotic (identical) than in dizygotic (fraternal) twins (1952). In an unpublished paper ('Genetics, homosexuality and public policy'), Stephen B. Saetz has summarized all such twin studies through to 1980. He found that of 112 monozygotic twin pairs, 82 were concordant for homosexuality, but of 47 dizygotic twin pairs only six were concordant (p. 27 of typescript). This would seem to indicate conclusively the presence of a genetic causal component, since the intra-uterine hormonal environment must be presumed to be the same for the two types of twins.

If there is a genetic causal factor, how is it that sexual inverts have not vanished from the face of the earth as a subnormally fertile group? In his pathbreaking study, *Sociobiology*, and in more detail in his *Of Human Nature* (1978), Professor Edward O. Wilson of Harvard has proposed an ingenious solution to this riddle. He suggests that the kin-selection process is at work. In other words, that the heterosexual siblings and other close relatives of homosexuals may enjoy superior or protected status in most human societies and may consequently have greater life-time fertility or greater survival chances for their progeny or both.

'If the kin-selection hypothesis is correct', Wilson writes, 'homosexual behavior is likely still to be associated with role specialization and the favoring of kin in hunter–gatherer and simple agricultural societies, in other words those contemporary cultures most similar to the ones in which human social behavior evolved genetically during prehistory'. After noting that male homosexuals in these primitive societies often acquired superior status as shamans and advisors, Wilson adds:

> It is further true that in western industrial societies, homosexual men score higher than heterosexuals on intelligence tests and are upwardly mobile to an exceptional degree. They select white collar professions disproportionately and regardless of their initial socioeconomic status are prone to enter specialties in which they deal directly with other people. They are more successful on the average within their chosen professions. Finally, apart from the difficulties created by the disapproval of their sexual preferences, homosexuals are considered by others to be generally well adapted in social relationships.

Generalizations would be extremely difficult to prove or disprove. There is clinical evidence that male homosexuals in modern societies have higher rates of suicide, neurosis,

alcoholism and other disabilities than the heterosexual majority. These data have been challenged on plausible grounds. However, they do raise some doubts about the Wilson hypothesis.

What would be needed is a statistically valid comparison of the fertility and average life spans of the siblings of representative groups of homosexuals. This would be virtually impossible in periods prior to, say, 1900, since homosexuality was generally regarded as either a crime or a disgrace. Contemporary comparisons would encounter the equally stubborn obstacle of virtually universal familiarity with birth control in modern societies and the inverse correlation that prevails in most of them between educational level and fertility. Dr Wilson is no doubt aware of these and similar problems and is careful to characterize his hypothesis as conjectural.

The riddle of the prevalence of homosexuality despite the lack of Darwinian fitness of homosexuals need not seem insoluble if we assume that the behavior form is primarily congenital rather than genetic in origin. The real or presumed increases in homosexuality in modern life may, if rat experiments are indicative, be caused by such phenomena as drug-induced fetal trauma. Our ignorance of the forces that determine prenatal hormone balance is considerable and a large area needs to be explored through animal experiments.

Finally, the hormonal theory of congenital homosexuality suggests that, for some at least, the condition is both irreversible and abnormal. Proust laments in *The Cities of the Plain* that male homosexuals are

> lovers from whom is always precluded the possibility of that love the hope of which gives them the strength to endure so many risks and so much loneliness, since they fall in love with precisely that type of man who has nothing feminine about him, who is not an invert and consequently cannot love them in return, with the result that their desire would be forever insatiable did not their money procure for them real men, and their imagination end by making them take for real men the inverts to whom they had prostituted themselves.

The son and brother of physicians and a man with a clear scientific mind, Proust may have realized that he and his colleagues were not merely victims of prejudice and public intolerance, but were instead sociobiological anomalies.

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