

DNA Paternity Testing, Parentage and Kinship. Reflections on Some Tendencies in the UK and in the USA

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Paternity tests are probably the most widely used of all the genetic tests which have been developed with the new technologies for the analysis of DNA. These tests involve the comparison of short sections of the DNA derived from samples collected from two individuals – usually a child and a putative father – and can confirm a paternal relationship with a very high degree of accuracy. They can tell us, in effect, whether the putative father produced the sperm that was involved in the conception of a child.¹ Before the advent of DNA profiling² it was possible to rule out potential fathers by using tests based on blood group proteins. But as each type of protein is shared by many men, these

1 But there is an exception, the case of monozygotic (single egg) twins. The genomes of these twins are very similar and they cannot be separated by the techniques that are currently employed. In principle, this should be possible by the sequencing of the whole genomes of the child and both the twins. Monozygotic twins are the product of a divided embryo, so initially will have identical genomes. However, over time new variants will arise in the DNA. New variants in the germ line may be transmitted to children in the sperm. Such variants will differ in the two twins and could be identified and compared with those carried by the child.

There was a recent case in the USA where (monozygotic) twins both had had a sexual relationship with a woman who became pregnant. A dispute arose over paternity and who should be liable to pay child support. A court ordered both twins to take a paternity test. The results indicated that both of them had a 99.9 percent chance of being the father. The mother had initially named twin A to be the father and on that basis twin A was ordered to pay child support. The twin's mother had accepted the child as her grandchild but both twins refused to have anything to do with the child until it was determined who was the father. Cf. Martin P. M. Richards, *Who are fathers in the realms of DNA relationship tests and collaborative reproduction*, unpublished manuscript, Centre for Family Research, University of Cambridge 2010.

2 Also called DNA finger printing. The principle of the new technique was announced by Alex Jeffries in 1984 and was subsequently developed as a paternity test which became commercially available soon afterwards. Cf. Alex Jeffries et al., *Hypervariable 'minisatellite' regions in human DNA*, in: *Nature*, 314 (1984), 67–73. For some early descriptive advertisements of DNA testing services cf. Martin Richards, *Family, kinship and genetics*, in: Theresa Marteau and Martin Richards eds., *The troubled helix. Social and psychological implications of the new genetics*, Cambridge 1996.

tests could not establish paternity absolutely but could rule out somebody. Similarly, a man could be eliminated if he was not at the right place at the relevant time – “over the seven seas”, was the legal phrase sometimes used.

DNA testing has thus produced the first definitive method of confirming the genetic basis of paternity and other close familial (blood) relationships (e.g. grandparent, aunt, uncle, twin, sibling and half-sibling). Amid widespread claims that social practices, discourses and relationships are being geneticised by the developing genetic knowledge and technologies³, we might expect DNA testing to have conceptual and practical implications for socio-legal and cultural understandings of parentage and kinship.

Whilst procreation, blood relationships and marriage have long been understood to define the structure of western kinship systems, the “truth” of genetic relatedness has hitherto remained impenetrable owing to the inherent uncertainty of paternity. Until the advent of DNA testing, the impossibility of establishing paternity and patrilineal descent with absolute certainty created an implicit tension in western understandings of kinship between the primacy attributed to bloodlines and the unverifiable nature of genetic relatedness. This problem of “paternal uncertainty” has carried explanatory weight across the academic domain to account for a variety of social and psychological phenomena. These range from Engels’s “The Origin of the Family, Private Property and the State” (1884) to the arguments of socio-biologists and evolutionary psychologists claiming evolutionary origins for aspects of social behaviour.⁴ Has DNA testing contributed to an increasing genetic essentialism in cultural and socio-legal concepts of parenthood and kinship? Can social changes be seen as a result of the ending of paternal uncertainty? These are very broad and complex questions⁵ and very little research by way of systematic social and cultural analysis has been carried out, as yet. However, here I will describe three situations which provide examples of historical shifts in the meaning of paternity which may be associated with the development and use of DNA paternity testing.

The first comes from an examination of (English) court cases related to situations where there is a dispute about paternity.⁶ In legal terms there is a presumption that a child born within marriage is the (genetic) child of husband and wife, but that presumption can

3 Cf. Abby Lippman, Prenatal genetic testing and screening, in: *American Journal of Law and Medicine*, 17 (1991), 15–50; Abby Lippman, Led (astray) by genetic maps. The cartography of the human genome and health care, in: *Social Science and Medicine*, 35 (1992), 1469–1476; Kaja Finkler, The kin of the gene: the medicalization of family and kinships in American Society, in: *Current Anthropology*, 42 (2001), 235–263.

4 For example Robert Trivers, Parental investment and sexual selection, in: Bernard Campbell ed., *Sexual Selection and the Descent of Man*, Chicago 1972, 136–179; Friedrich Engels, *The Origin of the Family, Private Property and the State*, London 1884.

5 Cf. Tabitha Freeman and Martin Richards, DNA testing and kinship: paternity genealogy and the search for the “truth” of our genetic origins, in: Fatemeh Ebtehaj, Bridget Lindley and Martin Richards, *Kinship Matters*, Oxford 2006, 67–95.

6 Cf. Andrew Bainham, Arguments about parentage, in: *Cambridge Law Journal*, 67 (2008), 322–351.

be challenged in certain circumstances. Here we can compare the outcome of Appeal Court cases and see how these may have shifted over time. First the old order before DNA paternity testing was widely used: In the case “*Re F (a Minor) Blood Test: Paternal Rights (1993)*”⁷ a mother had had an affair and became pregnant. The man involved applied to the court for a paternal responsibility and contact order, i.e. he wanted to be recognised as the child’s father and to see “his” child. The Court of Appeal upheld a judge’s refusal to allow blood tests. It was argued that the child’s welfare depended primarily on the mother and the stability of the marriage and that this outweighed any advantage to a child of knowing his biological parentage. But nine years later we had entered the DNA era and a new concept of “genetic truth” held sway in the judicial discussions and these issues were then decided rather differently. In the case of “*Re H and A (Paternity: Blood Test [2002])*”⁸ the facts were similar to the earlier case; a child was born to a married woman after an affair. Initially the mother allowed her lover to have contact with the children (they were twins). But their relationship ended and the lover brought a legal paternity suit. The mother had refused to allow a paternity test and her husband, in evidence, said he would leave the marriage if it was proved that the children were not his. On appeal the court ordered paternity testing. Paternity was to be established “by science and not legal presumption or inference”. The judge argued, “there would be very few cases where the best interests of children would be served by the suppression of genetic truth”. A legal commentator reviewing a series of such cases noted that “English law has enthusiastically embraced the principle of biological truth ... Considerations of the child’s welfare will now normally be seen as requiring the truth to be established”⁹. So a dramatic shift here from a position where a child is to be protected from any investigation that might reveal an extramarital conception to one where the “genetic truth” is to be uncovered whatever the consequences of that might be for parental relationships. It is now seen to be deemed in the best interests of the children to know the “genetic truth” of their parentage and this need trumps the parents’ wish to preserve their marriage, existing relationships and the status quo in the family.

DNA testing has perhaps had its strongest formative influence in relation to welfare policies concerning unmarried fathers and the financial support of their children. Here, the UK has followed a lead from the USA where the Federal Government policies were critical in the development of the DNA paternity testing industry.¹⁰ In 1975 a Federal

7 This is the formal name given to the case. “Blood Test” is a generic term which is the terminology of these legal cases and was used to describe the earlier blood group protein tests or the later DNA profiling tests. But critically as I mentioned above, only DNA tests can establish paternity accurately.

8 Again, this is the formal name of the case. At this time ‘Blood Test’ would mean a DNA paternity test.

9 Bainham, Arguments, see note 6, 336. Cf. also Eva Steiner, The tension between legal, biological and social conceptions of parenthood in English law, in: *Electronic Journal of Comparative Law*, 10.3.2006, 1–14.

10 Cf. Mary Anderlik and Mark Rothstein, DNA-based identity testing and the future of the family: a research agenda, in: *American Journal of Law and Medicine*, 28 (2002), 215–223.

Child Support Enforcement and Paternity Establishment Program was created to promote the States' efforts to establish paternity for children of unmarried mothers and collect child support payments for them. The Family Support Act of 1988 set standards for the establishment of paternity, requiring the States to make all parties in a contested paternity case to take DNA tests on the request of any party, with the Federal Government paying 90 percent of the costs of testing. There was further prescriptive legislation requiring development of policies based on DNA testing, so that by 1998 states in the USA were annually spending over 31 million dollars on DNA testing to support their welfare policies for collecting child support payments from fathers. Britain, where there was a similar concern to reduce welfare payments and get fathers to pay, followed a similar path to the USA. The Child Support Act of 1991 requires single mothers in receipt of welfare payments to name the father of their children. The Act also requires men to pay support costs where "a scientific test reveals that there is no reasonable doubt that he is the father, or where he refuses to take such a test". There has since been further legislation which requires unmarried mothers to include the father's name when registering the birth of a child. Or, as others have described:

Genetic testing has reinforced the view that biological or genetic relationships and parental status are tightly coupled ... Current law sends the message that genetic contribution to the creation of a child through sexual intercourse, without any other kind of connection to the child or mother, is a sufficient basis for legal fathers, with duty to provide financial support.¹¹

My final example concerns artificial insemination by donor. This developed as a medical practice early in the 20th century for couples where the husband is infertile and for those wishing to avoid the transmission of a genetic condition from the husband to a child. Donation was anonymous, and under English law the rights and duties of parenthood are transferred from the sperm donor to the partner of the woman being inseminated. In recent years there have been growing calls for the ending of donor anonymity and for a child to know who the donor was. In the post DNA testing era arguments have focussed on the notion of the child's "genetic identity" and for "genetic truth". Protagonists claimed that a child's identity was in some way incomplete or defective without knowledge of their donor father's identity. These arguments finally carried the day and since 1st April 2005 those who are born from donated sperm, eggs or embryos will be able when adult, to seek information, including a name of the donor and information about any half-siblings who may have been born of the same donor from the regulatory authority which keeps this information. So, once again, we find the same argument – knowledge of the genetic progenitor is beneficial to a child. However, despite the change in arrangements it would seem that most children will not have this knowledge. Most couples who use sperm

donation do not tell their children of this and allow their children to grow up assuming that their social and legal parents are also their biological parents. And without knowledge of their donor origin children will not, as adults, have any reason to enquire about the identity of their donor parent.

Many parents do not want to tell their children of their donor origins because they want an 'as if' family: for it to appear as if their child had been conceived in the traditional way by their own sexual intercourse and that social and genetic relationships coincide. So here we have a clash of values. While many parents – like those in case of “Re H and A” I cited earlier – want to hide the ‘genetic truth’ of their child’s conception, the new genetic ideology of origins leads the regulators of collaborative reproduction to make it possible for children to identify their donor parent. However, at the same time, principles of reproductive autonomy mean that the information is not given directly to the children but it is left to parents to tell their children that they are a product of donor sperm – and most of them decide to conceal this truth so that their ‘as if’ family is preserved. We should note here that the situation is rather different for single women and lesbian couples using donor insemination. In most cases their children are told of their donor origin.

It would seem that this new emphasis on genetic identity has been embraced in European human rights law. Strasbourg case law has established a principle of respect for a person’s private and family life embodied in article 8 (1) of the European Convention on Human Rights which is sufficiently broad to entitle a person born through assisted conception to establish details of his or her (genetic) identity.¹²

I have suggested that in at least some rather specific situations DNA paternity testing has led to changing notions of parenthood and origin and new policies and practices. These examples, however, fall far short of any demonstration of a new geneticised kinship or that the potential ending of paternal uncertainty has rewritten a moral order of fatherhood. Nevertheless, at least in some situations there are changes in the status of those whose sperm makes babies. Ultimately, of course, the genetic underpinnings of kin relationship that may be revealed through DNA analysis will only gain meaning when placed in the complex web of psychosocial, legal and cultural frameworks through which kinship is defined. Indeed, despite the popularity of DNA testing, kin relationship can not be reduced to shared DNA sequences and it seems likely that claims that we are entering an era of “genetic essentialism” is only a small part of a much more complicated story of kinship and DNA testing.¹³

¹² Cf. Steiner, Tension, see note 9.

¹³ Cf. Freeman/Richards, DNA testing, see note 5.

