Islam, Paternity, and the Beginning of Life

with Mohammed Ghaly, "The Beginning of Human Life: Islamic Bioethical Perspectives"; Ayman Shabana, "Paternity between Law and Biology: The Reconstruction of the Islamic Law of Paternity in the Wake of DNA Testing"

PATERNITY BETWEEN LAW AND BIOLOGY: THE RECONSTRUCTION OF THE ISLAMIC LAW OF PATERNITY IN THE WAKE OF DNA TESTING

by Ayman Shabana

Abstract: The discovery of DNA paternity tests has stirred a debate concerning the definition of paternity and whether the grounds for such a definition are legal or biological. According to the classical rules of Islamic law, paternity is established and negated on the basis of a valid marriage. Modern biomedical technology raises the question of whether paternity tests can be the sole basis for paternity, even independently of marriage. Although on the surface this technology seems to challenge the authority of Islamic law in this area, the paper argues that classical Islamic rulings pertaining to paternity issues continue to hold higher authority even in cases of conflict with modern technology-based alternatives. Through closer analysis, the paper traces the emergence of a differentiation in the function of DNA tests between identity and paternity verification. While the former is accepted without reservation, the latter is approved only when it does not violate the rulings of Islamic law.

Keywords: biomedical technology; DNA (deoxyribonucleic acid); DNA fingerprinting; *ijtihad* (independent legal reasoning); Islam; Islamic bioethics; Islamic law; paternity tests

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One of the important fields that capture the ongoing dialectical interplay between tradition and modernity in the Muslim world is biomedical ethics.[1] Bioethics is a discipline that examines ethical issues within biology, life sciences, healthcare, and medicine (Connell 2005, 179). The past few decades have witnessed growing interest in interdisciplinary discussions addressing the various ethical implications of the recent advances in medical

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and genetic sciences. Issues such as organ transplantation, cloning, and stem cell research have raised serious ethical concerns and posed important questions to ethical systems, both religious and secular. These discussions have even expanded to include the very definition of life and death in light of the knowledge generated by modern science and the various technical applications that this knowledge facilitated.

In this paper, I seek to contextualize these general questions in the wake of a recent debate in Egypt over the permissibility of using DNA paternity tests. The debate followed a lawsuit over the possibility of using these tests to establish the paternity of children born to single mothers or as a consequence of undocumented marriages. For the first time in this Muslim-majority country, this suit raised several questions that have long been considered characteristic of the moral laxity usually associated with Western societies, as the other (negative) side of liberalism. But while these tests are usually used in the West to verify marital infidelity, the case at hand examines the paternity of children within legally questionable marriages. The case was seen as an important precedent questioning the authority of classical Islamic law in the area of family law—the only territory that remained under the purview of Islamic law after the radical legal reforms that replaced the sharīʿah system with European-inspired legal codes. According to the rules of Islamic law, paternity is established primarily by a valid marital relationship. The main question that the case raises is whether DNA tests can serve as a basis for paternity independent of marriage. It, therefore, started a discussion about the definition of paternity and the relationship between biological paternity and legal paternity. On the surface, the case seems to compromise the longstanding authority of sharīʿah in the area of personal status legislation by suggesting the use of DNA tests as the sole or most important criterion for the establishment of paternity even in lieu of a marriage contract. In this paper, however, and using this case as an illustrative example, I argue that Islamic (family) law exhibited a high degree of resilience in the face of technological advances that question its ability to address modern needs and challenges. I attribute this resilience to two main factors. The first is its well-established methodology that determines the guidelines governing and informing the process of lawmaking, as outlined in a separate genre in the Islamic legal tradition known as *uṣūl al-fiqh*.[2] The second is its significant accommodative capacity that in turn was a function of its long and cumulative development in different social and cultural settings. So, the DNA fingerprinting in this case represents a new technology-based challenge that faces the Islamic legal tradition and suggests a radical modification of a well-established legal ruling on the establishment of paternity. This example is useful in showing how the legal tradition, represented by the jurists, responds to this challenge and the methods used in the process. To a large extent, the reconstruction of the Islamic

law of paternity in the wake of DNA testing would depend on the proper characterization and adjustment (*takyīf*) of the DNA fingerprinting vis-à-vis the other legal methods. In other words, such reconstruction would depend on whether DNA fingerprinting can be categorized as a proper legal method and also the proper hierarchy that governs the relationship among competing methods. Before discussing the legal status of DNA testing under Islamic law in the modern period, I give a brief summary of the case that started this debate and also of the rulings pertaining to the issue of paternity according to the classical works of sharīʿah.

The Case and the Debate

The details of the case started in 2005 with a paternity suit that shocked Egyptian public opinion. The case ignited a heated debate over the scope and limits of using modern medical technology in ways that are perceived to conflict with the Egyptian Family Law—and by extension with Islamic law, since it is based on it. Several factors contributed to the unprecedented media attention that this suit has drawn both nationally (Fathi 2005) and internationally (MacFarquhar 2005). Chief among these factors is the fact that this suit involved the famous taboo trilogy of the predominantly Muslim Egyptian society: religion, politics, and sex. It all started when a Family Court judge ordered a DNA test to verify the paternity of a 4-month-old baby girl claimed by a 27-year-old mother and plaintiff to be the daughter of a 24-year-old famous actor and the defendant. This was just the beginning of what at the time seemed like a reality series that captured the attention of the whole society. The case was brought to the limelight due to the public profile of both litigants who fought a parallel battle on newspaper pages and popular TV talk shows. According to the plaintiff, the baby was born as a result of a valid but undocumented marriage, otherwise known as customary or consensual marriage (*ʿurfī*). She insisted that the defendant kept the sole copy of the matrimonial contract that they concluded and that was the reason why she was unable to prove the legality of this relationship in court. When she became pregnant, the defendant demanded an abortion and upon the plaintiff's refusal to sacrifice the baby, the defendant denied that a marriage ever existed. The defendant did not deny his relationship with the plaintiff, but he refused to describe this relationship as marriage. Although a customary marriage is technically valid according to the rules of Islamic law as long as it satisfies the main requirements (mutual consent, approval of the bride's guardian, payment of dowry, and presence of witnesses), it was not recognized by the government until 2000. In fact, that was the standard way of conducting marriage in Egypt before 1929, and to this day many tribal communities still practice it. However, following the explosion of urban population, registered marriage became the standard method rendering customary

marriages susceptible to social stigma (Fathi 2005). More recently and due to the economic burdens often associated with standard registered marriages, customary marriages have been used as a back door to a number of relationships that are otherwise categorized socially and religiously as illicit. The process of marriage registration (*tawthīq*) is believed to achieve an important prerequisite for a valid marriage contract: declaration and public recognition (*ishhār*), a requirement that customary marriages are believed to lack.

On January 26, 2006, a Family Court in Cairo refused to acknowledge the paternity of the then 15-month-old baby girl by turning down the request of her mother to prove that the baby girl was the daughter of the defendant. Because the plaintiff failed to furnish a proof of a valid marital relationship, the court ruling stated that "an illegitimate relationship cannot be considered as a proof of paternity." Although it was rumored that the court issued its ruling despite the positive results of the DNA tests confirming that the defendant was the biological father of the baby girl (Khaleej Times Online 2006), the details of the case indicate that the defendant had always refused to undertake the DNA test (Rashed 2006; Gulfnews 2006). This ruling, however, was rejected by another Appeal Court ruling only 4 months later on May 24, 2006 (Rashed 2006). The judge who issued the ruling relied on the testimony of the witnesses, who, although they were not present at the time of the conclusion of the contract, testified to their knowledge of the marital relationship between the litigants. Based on this testimony, the judge ruled that the relationship between the litigants amounted to a valid marriage. Following this ruling, the mother established the paternity of her daughter and was finally able to issue a formal birth certificate bearing the name of the legal father. The mother later filed and won another suit demanding the end of the marriage in October 2007 (Disūqī 2007). This marked the final chapter of the legal saga between the two litigants, in which the mother ultimately emerged confident, determined, and victorious. Moreover, in an interview for a famous TV talk show in 2008, the father regretted his attitude toward his daughter and pledged to start a new page with her (Rizq 2008). In this interview, he confirmed that he had just taken a DNA test, not because he was not sure of his relationship to his daughter but in order to "remove any doubt" (MBC 2008).

This final scene put a happy ending to the long and fierce battle between the two litigants and their families but not to the polarizing debate whose repercussions still reverberate following the different questions that it raised. On the procedural level, for example, why did the defendant refuse to submit to the DNA test? Why did not the first judge force him to undertake such a test? According to the Islamic rules of adjudication, only the plaintiff is required to furnish a proof to substantiate her claims against the defendant. In the absence of such a proof, the defendant is

not obligated to provide evidence to prove his innocence, which is already presumed until the opposite is proven (by the plaintiff) (Nawawī 2003, 12:365).[3] In the absence of evidence to prove the existence of a marital relationship, the defendant was under no obligation to submit to the DNA test. Clearly, these adjudication procedures presume a certain hierarchy of admissible legal proofs that is laid out in the Islamic legal structure. One of the central questions in this debate revolves around the legal status of a DNA test vis-à-vis a valid marital contract. In other words, can this test serve as a legal proof, *dalīl sharʿī*, or a mere circumstantial evidence, *qarīnah*, that substantiates a legal proof?

In the face of new technological capabilities, such as DNA tests, some critics raise questions about the continued validity of the legal hierarchy of these legal proofs. If these tests can decide in paternity suits with an unprecedented degree of accuracy, the argument goes, what is the point of clinging to arcane and archaic legal codes? Such direct and sharp questions, however, need to be addressed together with other questions such as: can DNA tests really resolve paternity questions beyond any doubt? And even if they can resolve these questions legally, what about the ethical and moral implications that these paternity questions often involve? Moreover, this case raises an important question regarding the proper hierarchy in the relationship between paternity and marriage especially in light of this new technology. Below I explain why, in paternity questions, Islamic law has always treated marriage as the overriding principle that trumps any other consideration. We shall see how this issue illustrates the close connection between the ethical and legal dimensions within the Islamic legal tradition. I will pay special attention to the main texts and precedents that formed the foundation of the legal discourse on this important question. Before elaborating on the modern debate on the issue, I will briefly outline the standard methods of establishing paternity in classical Islamic law.

Methods of Establishing and Negating Paternity in Classical Islamic Law

The formal kinship system in Islam, as in the other Abrahamic religions, follows the agnatic line of descent. Matrilineal relationships are recognized and often have legal implications, but legal identity is based mainly on patrilineal pedigree. Justification for this system is rooted in clear indication in both the Qurʾān and the Prophetic traditions.[4] Classical Islamic legal sources distinguish two types of methods for the establishment of paternity: primary and secondary. The secondary methods include a number of alternatives that can be used in the absence of the primary method or when it proves difficult to ascertain. The primary method is the licit sexual relationship usually through marriage and in the past through ownership of a slave woman by a male master. The term used for this relationship in

Arabic is *firāsh* that literally means bed or bedspread. While the majority of the jurists held the view that it is a metaphorical reference to a woman within a licit sexual relationship, some jurists held the view that it can refer to a man as well (ʿAsqalānī 2000, 12:38). The latter view is based on a Qurʾānic reference to spouses as being garments to each other (2:187). The term can be traced back to several Prophetic reports connected with specific cases of dispute that were brought before the Prophet. These cases have been treated as paradigmatic models throughout the course of the Islamic legal tradition and constituted the nucleus of the juristic consensus that developed around key legal rulings pertaining to personal status issues. In one of these specific cases, the Prophet is reported to have said "the child belongs to the owner of the bed and the adulterer receives the stone."[5]

This report is used to prove that the primary factor for the establishment of paternity is birth as a result of a legitimate sexual relationship either through marriage or ownership.[6] The importance of this report lies in the fact that it originated in an actual incident of dispute over paternity in which the Prophet was asked whether the ancestral line should be determined on the basis of a legitimate sexual relationship (ownership of the slave mother in this case) or on resemblance of physical features to another person claiming to have fathered the child through an illegitimate sexual relationship. Although, according to the report, the indication of the physical features was strong, the Prophet's decision gave precedence to the legitimate sexual relationship. The statement "the child belongs to the bed or the owner of the bed" is usually taken to mean that children are to be attached legally to the owner of the bed on which they are born: the husband or the master. The statement "the adulterer receives the stone" is interpreted metaphorically to mean deprivation and disappointment, following contemporary Arabic cultural expressions (ʿAsqalānī 2000, 12:39)—that the child cannot be attached to an illegitimate father as a result of an illegitimate sexual relationship. Moreover, the punishment for adultery is usually based on sources other than this particular report.[7] The report emphasizes that sharīʿah considers a licit sexual relationship (*firāsh*) as the overriding principle in determining paternal identity. Moreover, this rule applies even when there are doubts that suggest otherwise such as lack of resemblance of physical features.

This conservative attitude of sharīʿah in paternity issues is predicated on several considerations. First, physical resemblance alone (or lack thereof) cannot always be a conclusive evidence for illegitimate paternity. In a famous tradition, the Prophet is reported to have pointed out that resemblance of physical features is not a reliable factor because these features could be impacted by the extended line of descent and not just the immediate parents (ʿAsqalānī 2000, 9:408; Nawawī 2003, 10:102).[8] Questioning paternity on the sole basis of resemblance of physical features (or lack

thereof), it is argued, would amount to judgment by suspicion. Moreover, admitting claims on the basis of doubt or conjecture in this area could open the door for suspicious allegations and accusations. Together with the severe punishment for false accusation (*qadhf*), this strict attitude of sharīʿah is meant to ensure the preservation and authenticity of lineage that has been tied with the notions of public morality and personal honor. This is clearly demonstrated in the well-known theory of sharīʿah objectives. These objectives are often divided into three main categories: necessary, complementary, and embellishing. The necessary category consists of five objectives that the sharīʿah seeks to preserve: religion, life, intellect, lineage, and wealth. The Arabic term for the fourth item is *nasl*, which is the equivalent of lineage (Ghazālī, 3:235; Shāṭibī 2003, 2:6–9). Some jurists use the term *ʿirḍ* (honor) instead of *nasl* that shows the close connection between these two concepts in the Islamic legal tradition.

The second consideration that underlies the position of sharīʿah on this issue, as illustrated in the above Prophetic report, pertains to the status of an illicit sexual relationship vis-à-vis a licit one. The report clearly indicates that in cases of doubt, confusion, or dispute, the former is superseded by the latter. This rule shaped a number of important juristic dicta. For example, the jurists would justify their disregard for the consequences of an illicit sexual relationship by saying that the sperm spilled in an illicit relationship is a waste (*māʾ al-zinā hadr/ghayr muḥtaram*). Another dictum indicates that the general rule governing the issue of paternity is that it should be confirmed, rather than denied or doubted, through the legitimate line of descent as much as possible[9] (ʿAsqalānī 2000, 9:410). Ultimately, questioning or denying paternity should be an exceptional last resort and should be based on conclusive evidence. Below I will explain the methods that Islamic law specifies for the eventuality of negating paternity. However, speaking about disregard for the results of an illicit sexual relationship does not mean that it is entirely inconsequential. It is here again where we can see how paternity issues bring out the interconnections between Islamic law and ethics. In fact, the jurists often discussed the consequences of an illicit sexual relationship within the context of numerous personal status questions that range from marriage, divorce, waiting periods following divorce, prohibited relationships based on consanguinity, and inheritance, among many others. The jurists spoke about illicit sexual relationships, including both fornication and adultery, either in the case of free persons or slaves. What concerns us here is the extent to which an illicit sexual relationship, as compared with a licit one, impacted the treatment of the question of paternity. In this context, it is useful to refer to an important distinction that the jurists made between two main aspects within prohibited intergender family relationships—a list of these prohibited family relationships is mentioned in the Qurʾān (4:23). The first aspect pertains to the ban on establishing a licit sexual

relationship through either marriage or ownership (*ḥurmah*). Violation of this ban would most likely amount to incest. The other aspect considers the intimacy that marks these close familial relationships and that often involves relaxation of the rules mainly pertaining to covering the proper dress codes and body covering regulations (*maḥramiyyah*). While a licit sexual relationship results in both of these two aspects of the prohibited family relationships, an illicit sexual relationship involves only the first aspect (*ḥurmah*). This means that if a person had an illicit sexual relationship with a woman, he could not marry this woman's mother or daughter; in this respect he is treated legally like a husband. However, when it comes to other intimate familial relationships, he is treated like a stranger. The rationale given is that the cause of the ban on marriage with female relatives is, in itself, prohibited (illicit sexual relationship) and therefore it does not involve the other aspect of prohibited family relationship (*maḥramiyyah*) (Ibn Qudāmah 1997, 9:494, 9:526–28). Support for this rule again is based on the Prophetic report mentioned above: "the child belongs to the owner of the bed and the adulterer receives the stone." According to this report, although the Prophet judged that the child be attached to the "legitimate owner of the bed," despite the strong indication of the physical features that suggested otherwise, he still commanded his wife (Sawdah) to cover herself before the child. Therefore, although the child would—from the strict legal point of view and according to the Prophet's judgment—be her brother, he is treated here as a stranger. In fact, based on this last part of the report, the Ḥanafī jurists reasoned that the Prophet did not in fact attach the child to the rightful owner of the bed because if he had, he would not have ordered the child's sister to treat him as a stranger. The majority of the jurists, however, supported the view that the Prophet attached the child to the rightful owner of the bed and that the Prophet's command to his wife to cover herself before the child was an extra precautionary measure (*lil-iḥtiyāṭ*). Other jurists, still, reasoned that this could be seen as a special case that concerns the wives of the Prophet only (ʿAsqalānī 2000, 12:40).

The third consideration that is used to justify this ruling of sharīʿah pertains to the nature and scope of a judge's ruling. Bearing in mind that the Prophet acted here as a judge, the question was raised whether the ruling applies externally only or both externally and internally. In other words, does the ruling of a judge seek to resolve a dispute without addressing the intrinsic truth of the claims, or does it seek to determine the intrinsic truth value of the claims in the case at hand? In a way, this is a distinction between pure legal and religious elements within a judge's ruling under sharīʿah. The jurists often spoke of two dimensions to the sharīʿah-based ruling. On the one hand, there is a purely legal dimension that is based on material evidence and as determined by a judge upon his examination of the information available to him (*qaḍāʾan*). There is also, on the other

hand, another internal dimension that pertains to the intrinsic truth value of the claims made by the litigants. The jurists realized that the verification of the conflicting claims may not always be possible, and that is why they relegated such verification to God's knowledge but also to the religious conscience of the litigants (*diyānatan*). Based on this report, the jurists formulated an important legal principle: a judge's ruling resolves a dispute only externally. The example given is the case of a ruling that was issued on the basis of false testimony. While testimony is an admissible legal proof from the procedural point of view, substantively, however, the truth of any given testimony cannot always be conclusively verified. In the report under discussion, the Prophet's judgment was based on the stronger evidence—in this case deemed to be the legitimate sexual relationship (*firāsh*). However, due to the doubt that was cast in the form of resemblance of physical features to a third (illegitimate) party, the Prophet ordered his wife to treat the child as a stranger—in opposition to the logical implications of the judgment (ʿAsqalānī 2000, 12:41; Nawawī 2003, 10:32).

In addition to the primary method of establishing paternity through a licit sexual relationship (*firāsh*), classical jurists of Islamic law also discussed several other secondary methods. These secondary methods include admission (*iqrār*), evidence (*bayyinah*), expert examination of resemblance of physical features between a father and a child, (*qiyāfah*), and finally lot-casting (*qurʿah*). All these methods are arranged hierarchically in a manner that governs their application and precedence. Although the present context does not allow a full or extensive examination of all these methods and their application, a general overview of these methods is helpful in illuminating the wider context of the main subject of this paper. In fact, closer analysis of the modern Islamic legal discussions on the status of DNA fingerprinting shows that the latter may be located within these secondary methods. For example, while some jurists sought to compare DNA fingerprinting to testimony (Sallāmī 2001, 184), most of the jurists are inclined to equate it rather with *qiyāfah* (Abū Khuzaymah 2010, 325).

Admission in paternity issues is divided into two main types: direct and indirect. Admission of direct paternity stands for one's attestation that he, himself, is the father of a child, and admission of indirect paternity stands for one's confirmation of a close family, especially agnatic, relationship with someone else (to be a brother, cousin, nephew, etc.). Admission is also referred to as attachment (*istilḥāq*), as was the case in the main report cited above. While the first type of admission was unproblematic as long as all the necessary conditions were fulfilled, the second type was controversial, and some jurists had gone as far as disapproving it (Muḥammadī 1994, 267). In either case, the person making the admission has to be legally competent, which means that he has to be of age and sane; he has to undertake the admission on his free will; and lastly, he has to be male. Although a

woman's admission of maternity is deemed questionable, some jurists did not differentiate between a man and a woman in the legal capacity to attest to paternal/maternal pedigree. Some other jurists distinguished between a married and unmarried woman, allowing it only in the case of the latter (Muḥammadī 1994, 250). The rationale given is that legal paternity, based on a clear indication in the Qur'ān, is ascribed to the father and he should be the one who makes such admission, if needed. Moreover, a mother's relationship with her child is well established by concrete material evidence through actual birth, but a father's relationship is something that has to be ascertained. Also, admission often involves important consequences, and the strongest types of admissions are the ones that are made by the one who would bear their consequences, the father in this case. The jurists who accepted a woman's admission reasoned that since she is a parent, there is no difference between a mother and a father in this case. The jurists who hinged this issue on the marital status of the woman reasoned that, in principle, the child of a married woman is attached to her husband through *firāsh*. Therefore, if a married woman makes an admission of maternity, the husband's acknowledgment of the child's paternity has to be confirmed, since he is considered the *bona fide* father. The wife's admission without the husband's acknowledgment would raise doubts about his paternity of the child. Conversely, the admission of an unmarried woman would limit the consequences of her admission to herself. As for the child or the person about whom the admission is made, the jurists stipulated that he must be of unknown paternity. This is again in line with the general principle that known paternity should not be questioned in the absence of conclusive evidence that suggests otherwise. They also added that this person (the subject of admission) must accept this admission if he is an adult and able to indicate his agreement. However, if he was a minor or insane, his approval would be unnecessary. In addition to these conditions, the jurists also stipulated that a paternity claim has to be rationally and logically feasible to the extent that it would not contradict common sense, established knowledge, or custom when it comes to age, residence, and background of the persons involved. Since the issue of paternity was often discussed within the context of *fatawa* and judgeship literature, the examination of a paternity claim had to be scrutinized through these reality checks (Ru'yah 2000, 398; Shabana 2010, 150, 158).

In addition to admission, the jurists also discussed the establishment of paternity through evidence. In Islamic law, the term *evidence* (*bayyinah*) is usually used to refer to witnesses because traditionally the testimony of witnesses had been considered the strongest type of evidence. Some jurists, however, did not limit it to the testimony of witnesses but expanded it to include any other means to support claims and confirm their veracity (Ibn al-Qayyim 2002, 1:78). This is particularly important for the issue at hand because some contemporary jurists sought to extend this understanding

of the term to include the employment of DNA fingerprinting for the settlement of paternity disputes in the modern period. Some have even gone as far as describing the DNA fingerprinting as one of the divine signs that can serve as the final determinator of one's identity (Hilālī 2001, 83–85). I shall come back to this point later when I turn to the modern discussions, but suffice it here to point out this disagreement on the interpretation of the term *evidence* even though the majority opinion continued to associate it with witnesses. The jurists disagreed on the number and also gender of acceptable witnesses, in paternity claims, into four opinions. The first opinion that was upheld by the Shāfiʿī, Malikī, Ḥanbali, and Imāmī jurists insisted that acceptable witnesses in paternity claims have to be two upright men. The second opinion that was upheld by the Ḥanafī, Ibāḍī, and some Zaydī jurists allowed the testimony of either two men or one man together with two women. The third opinion that was upheld by some of the Zaydī jurists allowed the testimony of two men; one man together with two women; or one man together with the oath of the claimant. Finally, the fourth opinion that was upheld by Ibn Ḥazm allowed the testimony of two men; one man together with two women; four women; or two women together with the oath of the claimant[10] (Muḥammadī 1994, 286). This gender-based distinction among witnesses has to be looked at within the larger framework of admissible testimony within the Islamic legal system. In paternity claims, the subject of a testimony can be the actual birth of a child (i.e., X gave birth to Y), an original testimony (e.g., in case a witness cannot give a formal testimony in court due to sickness or travel), or wide circulation or popularity (e.g., that X is the son of Y).[11]

The remaining secondary methods are resorted to in the presence of two or more competing pieces of evidence in disputed cases. Expert examination of resemblance of physical features between a person and his relatives especially from the patrilineal side, known in Arabic as *qiyāfah*, was one of the methods that were used to attach children to their rightful fathers (ʿAsqalānī 2000, 9:99). The jurists, however, disagreed on the reliability of this method and, consequently, on its admissibility. The Ḥanafī, Mālikī, Imāmī, and Ibāḍī jurists did not consider it a reliable method because it is based on speculation and conjecture. On the other hand, the Shāfiʿī and Ḥanbalī jurists, following a number of prominent companions, considered it a reliable method. This second opinion is based on a number of Prophetic reports in which the Prophet is reported to have indicated his approval of *qiyāfah* as a reliable method for the verification of paternity. But even those who accepted this method indicated that it applies only in cases of disputed or unknown paternity. Moreover, in cases of dispute where it becomes extremely difficult for any one claim to outweigh the other(s) or in cases of disagreement among experts, one last resort can be lot-casting. But similar to the case of *qiyāfah*, the jurists disagreed on the admissibility of lot-casting following similar lines of reasoning both for

and against its reliability[12] (Muḥammadī 1994, 332–60). As noted above, many modern researchers argue that the DNA fingerprinting is the ideal modern equivalent of the classical method of *qiyāfah*. In addition to its ability to give conclusive answers regarding genealogical descent, it renders the use of lot-casting completely unnecessary. This was all the more reason why some referred to DNA fingerprinting as the *qiyāfah* of the modern age (*Ru'yah* 2000, 456, 494; Abū Khuzaymah 2010, 8).

As much as the verification of paternity under Islamic law follows the establishment of the *firāsh* relationship, the negation of paternity follows the negation of this relationship as well. The general rule stipulates that every child born as a result of a valid marital relationship is attached to the husband. The only way for a husband to negate the paternity of a child, in case of doubt, is through the oath of condemnation (*liʿān*). The ruling pertaining to *liʿān* is also rooted in textual foundations in the Qur'ān (24:6–10). Moreover, these texts are traced back to several precedents recorded in the form of Prophetic traditions (ʿAsqalānī 2000, 9:411–34). Given the severe punishment for slander and accusations of infidelity in the form of *qadhf,* these precedents were meant to answer the question of whether a husband's accusation of infidelity against his wife will also be punishable, especially if he is unable to furnish the required form of evidence. Under sharīʿah rules, he would be required to support his claim by the testimony of four witnesses who must testify that they had seen the act[13] (al-Jazīrī 1990, 5:95). These Qur'ānic texts and Prophetic precedents indicate that in the case of marriage, the only way a husband can negate his paternity of a child born during this marriage is through the oath of condemnation that serves two main purposes. First, it is a means for the husband to avoid the *qadhf* punishment, since he is unable to prove the accusation of infidelity against his wife by producing the four witnesses.[14] Second, it is a means to negate the child who is born within this marriage, but as a result of the wife's infidelity. The immediate consequences of *liʿān* are twofold: permanent and irrevocable end of marriage[15] and negation of the paternity of the child who is attached to his mother exclusively[16] (ʿAsqalānī 2000, 9:430). Therefore, the oath of condemnation is instituted to resolve a complicated marital dispute involving children whose paternity is cast in doubt. The resolution of the dispute through *liʿān*, however, is not meant to establish guilt or to verify the veracity of the claims. It is meant, rather, to end a dispute involving intimate details from the purely legal point of view in a manner that would allow both parties to save face and preserve their dignity. The ruling relegates all other religious or spiritual consequences to divine jurisdiction. Again we cannot explore all the details and consequences of the oath of condemnation under sharīʿah, but the main question that concerns us here is whether *liʿān* can still be an effective means to end such disputes when DNA testing can answer paternity queries categorically. In other words, in the past, *liʿān* was the

last resort in the absence of more effective methods for the verification of paternity, and consequently the ambiguity that ensued had to be tolerated for lack of a more definitive alternative. Two main points are at the center of the debate: the degree of definitiveness that the results of DNA tests can claim, and the benefits of ruling out the uncertainty or ambiguity that would result from the execution of the oath of condemnation. But even more importantly, from the Islamic legal point of view, the debate relates to the status of *liʿān* as a legal procedure based on clear textual references in the Qurʾān and supported by documented Prophetic precedents. In other words, the debate raises important questions about the continued validity and viability of the Islamic legal structure as elaborated in the longstanding classical Islamic legal tradition.

Legal Status of DNA Tests

The discovery of the DNA fingerprinting represents one of the most important scientific breakthroughs in the modern period. The history of the DNA (deoxyribonucleic acid) revolution goes back to 1953 with the publication of a series of scientific papers, mainly by James Watson and Francis Crick (Nature 2010). DNA is the material within cells that contains each individual's unique genetic information. Decoding the DNA molecule ushered another scientific breakthrough that took place in 2003 with the discovery of the entire DNA structure, known as the Human Genome Project. The project consisted of an international collaborative effort to study the entire collection of human genetic information included in the estimated 30,000–40,000 genes of the human DNA (Kelavkar 2005, 9:283). Along with the promise of numerous novel applications that these discoveries made possible come many concerns about the ethical implications of this new knowledge in many areas such as medical practice (e.g., emphasis on cure rather than prevention) or behavioral psychology (e.g., genetic immutability) (Ruse 2005, 295). It was these ethical concerns that inspired the establishment of a research group within the Human Genome Project that focuses on the Ethical, Legal, and Social Issues (ELSI) associated with work on the project. This research group developed a statement on the proper conduct of genetic research, outlining the general guidelines that should regulate this type of research (Connell 2005, 3:179–82; Kelavkar 2005, 9:284).[17]

The capability of DNA tests to resolve questions pertaining to identity and paternity verification with unprecedented accuracy and precision is hailed as nothing less than a miracle of modern science. The application of this technology covers a wide array of issues ranging from criminal investigation to personal status questions. Most of these applications are celebrated as significant scientific achievements, especially in cases of unknown and disputed identity or paternity. For example, DNA

fingerprinting can be used for identity verification in many cases such as identity theft and accidents involving bodily mutilation or dismemberment (Ashqar 2001, 262). Some countries have even developed national DNA databases. The United Kingdom started the use of DNA as an investigative tool with the launch of a National DNA Database in 1995. The United States followed suit in 1998 with the introduction of the Combined DNA Index System that includes local and state databases. The goal of these databases is to identify suspects on the basis of electronic searches to match DNA samples taken from crime scenes with DNA profiles of individuals with records in these databases. According to a recent estimate, as of May 2007, DNA had been used in 50,343 criminal investigations in the United States and with about 4,582,516 convicted offender files on record. Although this can be an extremely powerful tool in criminal investigations, experts warn that it has to be used under strict guidelines in order to preclude any abuse, especially against minorities and disadvantaged groups (Selman-Ayetey 2009, 208). Moreover, safeguards must be implemented to preclude the misuse of such sensitive information as latent genetic illnesses or future health conditions that these tests can reveal (Williams and Johnson 2005, 551). This information can potentially and inadvertently be used as a part of a general surveillance system (Nature 2008). We shall limit ourselves here to the use of DNA fingerprinting in paternity-related purposes, since this is the main focus of this paper but also because identity verification is less problematic from the Islamic legal point of view (*Ru'yah* 2000, 454; *Qarārāt* 2004, 345).

DNA paternity testing can be conducted in a variety of circumstances and for different purposes. It can, for example, be undertaken in order to impose or revoke parental obligations. It can be equally undertaken in order to assert or deny parental rights (Blustein 2005, 34–35). The purposes for which DNA testing is sought would depend on the definition of the parental relationship and whether the ensuing obligations and rights are tied solely to biological or genetic connections (Murray 2005, 19–22).[18] These purposes would also depend on the legal context and whether such tests are recognized as admissible proofs in paternity disputes. Increasingly, paternity tests are commercialized, and private labs market their services to individuals directly without any governmental regulations or supervision. Many paternity testing labs provide services through mail-order operations either by phone or on the Internet. These services are not sought merely to prove paternity of children but often also to verify the fidelity of spouses (Nelkin 2005, 5). Whether these tests should be readily available to individuals without any formal warrant remains an open question even in Western countries (Blustein 2005, 45–48). From an Islamic legal point of view, the use of DNA paternity testing would be unproblematic to the extent that it does not conflict with well-established legal rulings and

procedures originating in the foundational sources of the Islamic legal structure.

The Muslim legal opinion on the legality of DNA testing can be located in four main genres: substantive discussions; statements and decisions of major legal councils; court rulings; and *fatwā* literature. The first category is probably the most important resource, since it usually integrates the findings of the other three genres. It includes all types of specialized literature in the larger area of Islamic legal scholarship. Substantive discussions on the legality of DNA paternity testing often begin by defining and delineating the exact relationship between this new method and the other legal methods that the classical Muslim jurists stipulated for the establishment of paternity. As noted above, these methods are divided into one primary method in the form of a valid marital relationship and a number of secondary methods in the absence of the primary method (e.g., admission, evidence, resemblance of bodily features, and lot-casting). Evaluation of DNA testing as a legal method and its relationship with the other methods stems from the characterization of a given method as a valid sharīʿah-based proof (*dalīl sharʿī*). From this perspective, a method constituting a valid sharīʿah-based proof is distinguished from another one constituting mere supporting evidence (*qarīnah*). Therefore, the legal status of DNA testing would depend on whether it is characterized as a legal proof, such as marriage, or admission, or as supporting evidence, such as resemblance of bodily features. In Islamic legal methodology, the valid proofs undergirding sharīʿah-based rulings are divided into two main categories: primary and secondary. The primary sources include the Qurʾān, the Sunnah of the Prophet, legal consensus, and analogical reasoning. The secondary sources include a number of inductive sources such as legal preference, public interest, and custom (Kamali 1991). These sources function within a larger hierarchical framework that regulates their order and precedence. In determining the legal status of DNA tests, the major question is not whether this method can be recognized as a legal proof/evidence but rather the order it should take among the other methods. Since the rulings and regulations pertaining to the establishment of paternity in Islamic law are rooted in a number of textual references in both the Qurʾān and the Sunnah of the Prophet, and since these two belong to the primary sources, the scope of the secondary sources or independent reasoning (*ijtihād*) becomes limited. The modern scholarly opinion on this issue recognizes the reliability of DNA testing but does not consider it, on its own, a categorical or unconditional proof of legal paternity. The overwhelming majority of the scholars who discussed the status of DNA tests reached the conclusion that it can be classified as a form of strong supporting evidence (Hilālī 2001, 272; Kaʿbī 2006, 292; ʿUthmān 2009, 339). The argument for the acceptance of DNA testing is made on the basis of other proven and accepted technical applications for identity verification

such as identity cards, fingerprinting, and photographs (Ashqar 2001, 264). While some scholars emphasized the distinction between a sharīʿah-based proof and other types of supporting evidence, others referred to all the methods as proofs. Both groups, however, still emphasized the order and hierarchy that govern the applicability of these methods (Sunbāṭī 2001, 295). Therefore, in cases of conflict, results of DNA tests should not override an established sharīʿah-based proof such as marriage, but it may override resemblance of bodily features (*qiyāfah*), which is believed to be a much weaker type of evidence when compared to DNA testing (Ashqar 2001, 265). The current juristic consensus is that the results of DNA testing should take priority over both resemblance of bodily features and lot-casting (Kaʿbī 2006, 361). Some have even argued for giving preference to the results of conclusive DNA testing over the testimony of witnesses (ʿUthmān 2009, 351).

This reluctant attitude toward DNA testing is not only due to deference to the rules of sharīʿah but also due to the possibility of technical errors that might occur in the process of conducting these tests. According to the statement of the 16th Session of the Islamic Jurisprudence Academy (Mecca, January 5–10, 2002) on the issue, the results of DNA testing constitute evidence that is almost definitive in either establishing or negating paternity.[19] The statement, however, indicated that the results of DNA tests remain in need of further scrutiny not because the DNA technology itself is unreliable but rather due to the susceptibility of the human effort involved in conducting these tests to error (*Qarārāt* 2004, 343). In order to circumvent the possibility of human or technical errors, several recommendations were made to institute strict guidelines that ensure the accuracy of the results. In this context, the analogy is made to the conditions that the classical jurists stipulated for an acceptable testimony of a reliable expert in resemblance of bodily features (*Ru'yah* 2000, 404; Sunbāṭī 2001, 296). Some have even suggested that this technology should be undertaken only under tight governmental control (*Ru'yah* 2000, 365; *Qarārāt* 2004, 345).

Following the foregoing discussions about the means of establishing and negating paternity in classical Islamic law, determining the legal status of DNA testing would require a detailed classification of the applicable cases for which it is sought. For example, for establishing paternity, a general distinction is made between undisputed paternity and disputed paternity. Undisputed paternity is *bona fide* paternity based on a valid and recognized marital relationship. The consensus of legal opinion in this case is that in the absence of conclusive evidence to the contrary, *bona fide* paternity should not be questioned, challenged, or even verified further through any other means. The reason given is that investigating undisputed paternity might lead to the disruption of close family relationships that, in turn, can have negative consequences on social stability (*Qarārāt* 2004, 344). Since

undisputed paternity is founded on a strong legal proof in the form of a valid marital relationship, it cannot be overridden by a lesser proof or evidence (including DNA testing). Moreover, since sharīʿah rulings tend to favor establishing paternity over negating it, it recognizes paternity even when the marriage contract is considered deficient as it is the case in what is known as the doubtful marriage.[20] Therefore, the current general juristic opinion as represented in major councils, academies, and conferences[21] tends to discourage the pursuit of DNA testing in cases of undisputed paternity either on the individual level or the collective level in the form of public or large-scale databases that include DNA fingerprinting. Some scholars, however, have recommended the gradual application of this technology, which has to start by registering the DNA fingerprinting of the spouses on their marriage certificates before the consummation of marriage. Their DNA fingerprinting can be compared with that of their future children and recorded on the latter's birth certificates (Hilālī 2001, 190, 209). Some researchers, however, criticized the suggestion to enforce the registration of the DNA fingerprinting and saw it as a means to undermine many of the rules of sharīʿah pertaining to marriage and its consequences (Kaʿbī 2006, 461). On the other hand, for the cases of disputed paternity in which one or more of the secondary means (such as resemblance of bodily features or lot-casting) are resorted to, DNA testing is considered an acceptable method for establishing paternity. The statement of the Islamic Jurisprudence Academy on the issue listed three examples of disputed paternity: children born as a result of a doubtful intercourse (*waṭʾ al-shubhah*), as discussed in classical Islamic sources; cases of uncertainty as a result of confusion in neonatal units, baby care centers, or fertility centers; and cases of missing or lost children, especially in the wake of accidents, disasters, or catastrophes (*Qarārāt* 2004, 344).

As much as DNA testing can be used for the establishment or confirmation of paternity, it can be equally undertaken for the negation of paternity. Since a valid marital relationship is the main method of establishing paternity, the use of DNA testing for the establishment or confirmation of paternity is often discussed in relationship with marriage. Similarly, since the oaths of condemnation (*liʿān*) are the main method that sharīʿah stipulates for negating paternity, the use of DNA testing for the negation of paternity is often examined in connection with this method. The negation of paternity presumes the existence of a *bona fide* paternity on the basis of a valid marital relationship and is usually resorted to by a husband/father who questions this *bona fide* paternity. The modern jurists who investigated the relationship between DNA testing and the oaths of condemnation were divided into three main groups (Kaʿbī 2006, 461). The first group, which represents the minority, considered the results of DNA testing conclusive evidence that renders resort to the oaths of condemnation superfluous. The supporters of this opinion argue that

the oaths of condemnation are resorted to in case the husband/father is unable to produce evidence to support his claim. The results of DNA tests constitute strong supporting evidence to confirm or negate the claim (*Ruʾyah* 2000, 405; Hilālī 2001, 351). The second group refused to give priority to DNA testing over the oaths of condemnation because the latter has important sharīʿah-based consequences such as the irrevocable termination of marriage and removal of otherwise applicable punishments either for false accusation or for adultery/fornication. The third group considered DNA testing a secondary method for the negation of paternity after the oaths of condemnation. They argued that DNA testing can be undertaken with the agreement of both parties and that the oaths of condemnation can still be used if need be. The statement of the Islamic Jurisprudence Academy upheld the opinion of the second group emphasizing the continued validity of the oaths of condemnation and rejecting the substitution of the oaths of condemnation with the results of DNA testing.[22] Some researchers chose the view that DNA testing does not conflict with the oaths of condemnation because they can support each other. For example, if the result of the tests does not match the claim of the husband/father, paternity will not be affected. He still can use the oaths of condemnation if he is certain about his accusation against his wife. The oaths of condemnation in this case would pertain mainly to the charge of infidelity. DNA testing can prove that the husband is the biological father of the child, but it cannot prove the fidelity of the wife and remove all the doubts of the husband. If, on the other hand, the result of DNA testing supports the claim of the husband—that he is not the biological father—the wife can still use the oaths of condemnation in order to negate the charge of infidelity if pregnancy occurred, for example, as a result of doubtful intercourse (*Ruʾyah* 2000, 460). DNA testing, therefore, is treated as a technical device to further clarify the situation, but legally speaking it functions as supporting evidence. The oaths of condemnation remain, according to the majority of researchers, the final procedure, bringing the ultimate resolution of what is usually a complicated problem striking at the root of the marital relationship and defying any effort at reconciliation. Some researchers have even indicated that in cases requiring the application of the oaths of condemnation, conclusive evidence is unnecessary and even defeats the purpose of this procedure that is meant to provide an opportunity for partners who lost mutual trust to end this relationship in an inconclusive but humane manner (*Ruʾyah* 2000, 523). Contemplating the meaning and purpose of the oaths of condemnation brings to light the importance of understanding the inner dynamics and structures of Islamic jurisprudence. For example, it reveals the need for understanding the theory of the divine command, representing the repository of the divine will, as expounded in Islamic legal theory. It also points out the critical role of the theory of the higher objectives (*maqāṣid*) of sharīʿah. According to

this theory, no single ruling should be examined in isolation of the larger legal framework of sharīʿah that is believed to serve certain fundamental objectives, including religion, life, intellect, lineage (honor), and wealth. Finally, it illustrates the interconnections between the legal and religious dimensions in Islamic law.[23]

Reservation toward the results of DNA testing and reluctance to adopt this method as the sole, final, and conclusive evidence of paternity have been reflected in the way this method has been treated in real cases as demonstrated in the *fatwā* literature and court verdicts (Nājī 2010, 282–92). Some researchers attribute this attitude to the lack of the technical capabilities that this technology requires. Such capabilities remain either completely lacking or available only on a limited scale. Many researchers, on the other hand, attribute it to legislation that limits DNA testing to the scope of mere supporting evidence. Meanwhile, reliance on the results of DNA testing remains subject to the discretion of judges and their examination of the facts of particular cases. According to published research on this issue, family courts in the Muslim world mostly follow the established consensus on the methods of establishing and negating paternity in Islamic law (Kaʿbī 2006, 84–91). This is the case especially in suits involving not only fully valid marriages, and consequently *bona fide* paternity, but also doubtful marriages that lack one or more of the conditions of a valid marriage. When it comes to paternity, there is no difference between these two types. This is all the reason why in the case referenced above, the ruling of the Appeal Court in favor of the plaintiff (requesting the attachment of the paternity of her daughter to the defendant) rested exclusively on the consideration that the relationship between the litigants was in fact marriage based on the testimony of witnesses. No mention was made to DNA testing or any other type of supporting evidence. The underlying assumption is that in the presence of marriage (or doubt thereof) *bona fide* paternity takes the first priority. As far as the implications of this case on the already polarized Egyptian legal landscape, if anything it has widened the gap between those who call for full Islamization and those who push for more modernization. Both groups hailed the ruling of the Appeal Court on the case and claimed it as a victory. While the first group emphasized the procedural and substantive aspects that gave priority to a sharīʿah-based method (testimony), the second group emphasized the final outcome of the ruling in favor of the claimant and considered it a step toward more daring changes in the future.

Conclusion: Distinctive Islamic Bioethics?

In formulating their legal constructions, Muslim jurists do not seek to issue a set of isolated positive rulings but rather seek to infuse these legal constructions with the moral vision implicit in the divine will that they

are required to contemplate and search for in every case. The ethical underpinnings of the legal rulings and constructions are usually traced back to Islam's foundational sources, the Qur'an and the Sunnah of the Prophet. They are also rooted in the Prophetic model and the legacy of subsequent generations of jurists and scholars throughout Islam's extended intellectual tradition, especially in its theological and legal sections. The Islamic foundational sources are replete with examples of moral injunctions and exhortations that include, for instance, commands to reinforce the good and forbid the evil, condemnation of corruption on earth, and empowerment of the wronged and the oppressed. These injunctions purport to establish a moral community on the basis of a divinely inspired text that in itself represents an ethical ideal. God, therefore, is seen as the ultimate source of moral knowledge, and his will is revealed in his book that was communicated to humanity through the last Prophet of Islam (Hoebink 1999, 30–31). Muslim jurists strive to search for the divine will as expressed in the text and seek to translate it in their constructed rulings. Their creative engagement of reality in different social and cultural contexts aims to ensure the continuity and adaptability of sharīʿah-based rulings within the parameters that legal theory allowed for permissible change.

The issue at hand demonstrates that contemporary Muslim jurists follow in the footsteps of their predecessors. Their deliberations on the legal status of the DNA fingerprinting vis-à-vis the other sharīʿah-based methods focus primarily on the ethical underpinnings of the sharīʿah-based rulings. Unlike positive legislation, these rulings do not merely aim to stipulate certain orders or to resolve conflicts, but rather aim to achieve the divine intent and objectives tied to these rulings. This is clearly illustrated, for example, by the invocation of notions such as sharīʿah objectives, divine command, and divine will that is meant to underscore the ethical dimensions behind particular legal rulings. As noted above, paternity is linked with marriage, which, in turn, is tied to a particular moral vision undergirding family relationships and social life. This explains the reluctance of contemporary Muslim jurists to adopt DNA fingerprinting as the ultimate criterion for the determination of paternity independently of marriage.

The present discussion on the proper characterization of the DNA fingerprinting and its relevance to Islamic rulings pertaining to paternity highlights the distinctive character of Islamic bioethics. Islamic ethics has always been identified with Islamic law and Islamic legal theory to the extent that they are sometimes seen as completely coextensive (Reinhart 1983, 186; Fadel 2008, 23). The Islamic intellectual tradition, however, comprises several other resources that have been employed within a general theory of Islamic (bio)ethics. These resources include elements that originate in the historical experience of Islam, as it is the case with dialectical theology (*kalām*). They also include other elements that originate, for

example, in pre-Islamic Arabian culture, Abrahamic traditions, or classical Greek thought. Eventually, these different resources were utilized by several discourses within the Islamic intellectual tradition as developed by a wide range of intellectuals such as philosophers, intellectuals within the *adab* genre, and the jurists (Kelsay 1994, 97–102; al-Jābirī 2006). Therefore, Islamic bioethics can be seen along the continuum of distinctiveness pursuant to the elements that it shares with or integrates from other ethical systems. Islamic bioethics can be seen as distinctive to the degree that it derives solely from Islamic-specific norms and values rooted in Islam's foundational sources.

Keeping in mind these different resources underlying the (bio)ethical discourses in the Islamic intellectual tradition might explain the divergence of opinion on particular issues not only in history but also in modern discussions connected with these historical resources. Recent studies on the question of organ transplantation, for example, sought to explore how these different resources might have produced different views on the relationship between the body and the soul and how these views may have resulted in different opinions on the question of organ transplantation (Moosa 2002, 329–56). If these opinions on organ transplantation rest on the definition of the relationship between the body and the soul, in the case of DNA paternity testing, legal opinion rests on the definition of paternity itself and whether it is solely biological. But, apart from the question of the specificity or distinctiveness of Islamic bioethics, it is important to understand how the Islamic bioethical discourse is constructed and how legitimacy or legitimization for a novel issue is secured. In every legal or ethical tradition, legitimization is secured through discursive interrogation of the tradition and linkage with its recognized authorities through consensus building mechanisms (Sing 2008, 98). In this context, the case under discussion can serve as an illustrative example that shows the extent to which sharīʿah is used to inform the decision-making process on modern biomedical issues. It can also serve as an indicator of how much such use of sharīʿah does or does not stunt the development of an intercultural dialog in this area.

Notes

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1. The reception of modernity in the Muslim world has been the subject of a long and extensive scholarly debate that extended over the past two centuries. For a sample of the main lines of this debate, see Said (1979), Hourani (1991), Hoebink (1999), Macfie (2000), and Abou El-Fadl (2007).

2. For a critical review of the role of legal theory in producing actual laws, see Jackson (2002, 195), where he argues that the role of legal theory is not limited to producing the law but may also include validating it.

3. In a Prophetic report, the Prophet is quoted as having said "if people were to be believed on the basis of their (unsupported) claims, they would make (false) claims that involve others' bloods and wealth but oath is on the defendant (to defend himself)." In another narration by Bayhaqī he indicated that "proof is upon the claimant (to support his claim) and oath is upon the defendant" (Nawawī 2003, 12:365). The jurists disagreed on the question of whether a judge should ask the defendant to take an oath to deny a paternity claim if the claimant failed to provide conclusive evidence to support such a claim. The Ḥanafī, Mālikī, and some Ḥanbalī jurists held the view that the defendant cannot be forced to take an oath in this case (the burden of proof falls upon the claimant, not the defendant). On the other hand, the Shāfiʿī, some Hanafī, some Hanbalī, the Zaydī, the Ẓāhirī, and the Imāmī jurists held the view that in this case the defendant should take the oath to deny the paternity claim. This last view is based on the general meaning of the Prophetic report cited here. The latter group discussed the question if the defendant refused to take the oath and again the discussion resulted in three views: the claimant, instead, should take the oath to support his claim; the refusal of the defendant to take the oath is considered a proof against him; and that the defendant should be asked either to deny by taking the oath or to admit paternity of the child (Muḥammadī 1994, 297–313).

4. "Call them by (the names of) their fathers, that is fairer in the sight of Allah" (33:5).

5. In the Sunni legal tradition, there are six main collections of Prophetic reports. These are the collections of Bukhārī (d. 256/870), Muslim (d. 261/875), Abū Dāwūd (d. 275/888), Tirmidhī (d. 279/892), Nasāʾī (d. 303/916), and Ibn Mājah (d. 273/886). The two collections of Bukhārī and Muslim are generally considered the most authoritative because they contain the most authentic reports. Reference to the report in question is made according to the version of both al-Bukhārī with the commentary of Ibn Ḥajar al-ʿAsqalānī (d. 852/1448) and Muslim with the commentary of al-Nawawī (d. 676/1278).

6. In this section, I discuss the classical definition of the term *firāsh* within the context of classical Islamic law that includes both marriage and ownership. I am not discussing Islam's position on slavery in general and the implication of this position for the modern period. The dominant Islamic opinion in the modern period does not conflict with the universal condemnation of slavery.

7. This is the interpretation that Ibn Ḥajar al-ʿAsqalānī chose. Al-Bukhārī used this second statement as a separate title in the chapter on punishments (*ḥudūd*). According to al-ʿAsqalānī, the commentator on al-Bukhārī's collection, this may indicate al-Bukhārī's preference for the other interpretation: that the word "stone" here refers to stoning. Al-ʿAsqalānī, however, takes issue with this interpretation because stoning is the punishment for adultery (married persons), not fornication (unmarried persons). The word used in the report to refer to illicit sexual relationship, *ʿāhir*, can be used for both (ʿAsqalānī 2000, 12:140–41; Nawawī 2003, 10:31).

8. Abū Hurayrah reported that a man came to the Prophet and said, "O Prophet of God, my wife gave birth to a black child." The Prophet asked, "Do you have camels?" "Yes," the man answered. The Prophet asked, "What are their colors?" "Red," the man answered. The Prophet then asked, "Is there anyone among them gray in color?" "Yes," the man answered. The Prophet asked, "Where did this gray color come from." The man replied, "It might have come from any of the camel's ancestors." Thereupon the Prophet said, "So is the case with your child."

9. "*wa fīhi al-iḥtiyāṭu lil-ansāb wa ibqāʾuhā maʿa al-imkān wa al-zajru ʿan taḥqīqi sūʾ al-ẓann.*"

10. The first opinion was based on the acceptable testimony for remarriage with one's divorcee (*rajʿah*). The reference in the Qurʾān (65:2) stipulated two upright men, and by analogy the same type of testimony was extended to all nonfinancial contractual dealings. Women's testimony in financial transactions, being the most recurrent, is admissible according to the majority of jurists based on a clear indication in the Qurʾān (2:282). It was basically women's testimony in extra financial transactions that was subject to disagreement. The second opinion is based on the general texts that allow women's testimony especially in financial matters

and female-related issues. Moreover, it is also based on several uncontested precedents ascribed to ʿUmar, the second Caliph, allowing the testimony of women with men in marriage-related issues. This opinion emphasizes the uprightness of witnesses rather than their gender. The third opinion is based on reports that indicate the possibility of combining the testimony of one man with the oath of the claimant. The fourth opinion is based on textual references that indicate that the testimony of two women is equal to that of one man. Therefore, by extension, the testimony of four women is equal to that of two men.

11. Some jurists differentiated between the verification of identity and the verification of paternity. It is noted that for regular or common transactions, identity verification is based on common knowledge and does not require extensive investigation of personal background, including paternity. Verification of paternity, however, is usually connected with inheritance claims and should be based on conclusive evidence.

12. For those who approved lot-casting, it would be the last resort to decide among competing expert witnesses. Those who disapproved it held different views: the opinion of the first expert witness should be chosen; all competing pieces of evidence should be discarded, and it is left to the child when he grows up to choose; and finally the child can be attached to more than one father.

13. "And those who accuse chaste women (of infidelity) and fail to produce four witnesses (to support their allegations) flog them with eighty stripes and don't accept their testimony ever after, such individuals are wicked transgressors" (24:4). One of the main Prophetic reports related to this and recorded in al-Bukhārī's collection is this one transmitted on the authority of Mālik through Ibn Shihāb: Sahl Ibn Saʿd al-Sāʿidī reported that ʿUwaymir al-ʿAjlānī went to ʿĀṣim Ibn ʿAdi al-Anṣārī and said to him: "O ʿĀṣim, what if a husband found a (strange) man (committing adultery) with his wife, shall he (the husband) kill him (the strange man) and if he did, would you kill him (the husband in retaliation for the slain person)? Would you ask the Prophet this question?" When ʿĀṣim asked the Prophet, the signs of displeasure were seen on the face of the Prophet, which made ʿĀṣim regret asking the Prophet this question. When ʿĀṣim went back, ʿUwaymir asked him what had happened. ʿĀṣim replied by saying, "You did not come with good (circumstance); the Prophet did not like the question that I asked him." ʿUwaymir said, "By Allah I will not stop until I ask him about it." ʿUwaymir proceeded until he approached the Prophet in the middle of a gathering and said, "O Prophet of Allah, what if a husband found a man with his wife, shall he kill him, and if he did, would you kill him or what should he do?" The Prophet replied, "Revelation came to explain your and your wife's situation, go and bring her." Sahl said, "They then exchanged the oaths of condemnation, and I was one of those present with the Prophet. When they finished, 'Uwaymir said, 'I would be lying to her, O Prophet of Allah, if I continue to keep her (in marriage).' He divorced her three times before the Prophet commanded him to do so." Ibn Shihāb said, "This became the standard procedure in the case of *liʿān*" (ʿAsqalānī 2000: 9:413; Nawawī 2003, 10:92–94).

14. In one report, Saʿd Ibn ʿUbādah asked the Prophet in case a husband found a man with his wife whether he should wait until he brings four men to bear witness. The Prophet replied in the affirmative. *Liʿān*, therefore, was introduced as a means to end the marital relationship in cases of unproven claims of infidelity in a way that would allow both partner to preserve their dignity.

15. The majority of the jurists were of the opinion that the completion of the process of *liʿ ān* results in the irrevocable end of marriage. The Ḥanafī jurists, however, argued that the separation between the spouses following *liʿān* is temporary and that if the husband recanted and received the punishment for false accusation, the marriage could be resumed (*Ruʾyah* 2000, 429).

16. In a report recorded in al-Bukhārī's collection on the authority of Mālik through Nāfiʿ, Ibn ʿUmar reported: "the Prophet executed the oath of condemnation between a man and his wife and as a result the child's paternity was negated and they were separated. The child was attached to the woman" (ʿAsqalāni 2000, 9:430). In another narration in Muslim's collection when Mālik was asked whether he reported a ḥadith on the authority of Nāfiʿ through Ibn ʿUmar indicating that as a consequence of *liʿān*, the child was attached to his mother, Mālik answered in the affirmative (Nawawī 2003, 10:98). This, in turn, explains the stigma that is associated with attaching a child to his mother. It is usually taken to mean that the child was born either out of wedlock or as a result of infidelity. In the course of their discussions on this

point, some contemporary jurists, following the view of Ibn Taymiyyah, differentiate between married women and unmarried women. While the children of married women are attached automatically to the rightful owner of the bed following the text of the Prophetic ḥadīth, the children of unmarried women, on the other hand, could be attached to their biological fathers. This view looks primarily at the interest and welfare of children regardless of the faults of their parents. This view, however, was heavily criticized by the majority of the participants in the symposium that the Islamic Organization for Medical Science (IOMS) devoted for the discussion of this topic (*Ruʾyah* 2000, 504–29).

17. The statement emphasized four main principles: recognition that the human genome is part of humanity's common heritage; adherence to international norms of human rights; respect for the values, traditions, culture, and integrity of participants; and the acceptance and preservation of human dignity and freedom (Kelavkar 2005, 9:284).

18. Murray distinguishes three meanings of parenthood based on genetics, intention, and rearing. Employing the concept of mutuality as the central moral element in parenthood (in helping their children, parents seek their own flourishing), he concludes that rearing is the most significant meaning of parenthood (Murray 2005, 32).

19. "*Natāʾij al-baṣmah al-wirāthiyyah takādu takūnu qāṭʿiyatan fī ithbāti nisbati al-awladi ilā al-wālidayni aw nafiyhim ʿanhumā.*"

20. Doubtful marriage (*shubhat al-zawāj*) refers to a sexual relationship that does not amount to a fully valid marriage but cannot be categorized as fornication or adultery either. The doubt in this case can be regarding the action itself, the subject of the action, the contract, or juristic disagreement. In all these cases, paternity is recognized (Hilālī 2001, 283–87).

21. There are two main academies that serve as transnational forums for the discussions of Islamic juridical issues: the first is the International Islamic Jurisprudence Academy affiliated with the Organization of the Islamic Conference. For the decisions of this Academy see "*Qarārāt*" at http://www.fiqhacademy.org.sa. In its 11th session held in Bahrain in November 1998, the academy postponed its decision on the issue of genetic engineering and human genome for further examination. The second is the Islamic Jurisprudence Academy affiliated with the Muslim World League. This academy discussed this issue in its 16th session held in Mecca in 2002, published in 2004 and referred to here as *Qarārāt* (2004). For further discussions on this issue, see the proceedings of the 11th seminar of the Islamic IOMS held in Kuwait in October 13–15, 1998 under the title "Genetics, Genetic Engineering, Human Genome, and Gene Therapy – An Islamic Perspective," published in Arabic in 2000 as *Ruʾyah Islāmiyyah li-baʿḍ al-Mushkilāt al-Ṭibbiyyah al-Muʿāṣirah* (An Islamic Perspective on some Contemporary Medical Problems) and referred to here as *Ruʾyah* (2000).

22. "*lā yajūzu sharʿan al-iʿtimādu ʿalā al-baṣmati al-wirāthiyyah fī nafy al-nasabi wa lā yajūzu taqdīmuhā ʿalā al-liʿān*" (*Qarārāt* 2004, 345).

23. In his study about the different juristic views on organ transplantation, Moosa referred to this religious dimension of Islamic law as the ritual function of the law (Moosa 2002, 351).

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