

## **Harmonization between Islamic Law and Science: DNA Test of Paternity as a Case Study**

### **Pengharmonian diantara Undang-undang Islam dan Sains Ujian Paterniti DNA Sebagai Kajian Kes**

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#### **Abstract**

DNA testing of paternity has emerged as a conclusive scientific evidence of ascertaining paternity to overcome the problem of 'paternity fraud' and 'misattributed paternity' in the West. To harmonize it with old established common law principles of 'presumption of paternity' and 'ex parte' judgment for granting a woman her claim that her bastard child belongs to a certain accused, the Western legal system has accommodated it within its law of evidence. In Islamic law, on the other hand, its reception as conclusive evidence in establishing or negating paternity is a matter of controversy among the jurists. Some have approved it partially others advocate its wholesale adoption. This presents another interesting case for the issue of harmonization between Islam and science. In this divided juridical landscape, therefore, a selective approach to evidence and proof would regard it in total harmony with Islamic law. But this approach will not only be questionable on methodological grounds but also polemical in terms of social acceptability. This paper argues for regulated proof-based approach to address its harmonization with Islamic law.

**Keywords:** DNA Paternity Test, harmonization, Proof-Based Approach.

#### **Abstrak**

Ujian paterniti DNA telah muncul sebagai bukti saintifik muktamad yang menentukan paterniti untuk mengatasi masalah 'penipuan paterniti' dan 'paterniti salah' di Barat. Untuk mengharmonikannya dengan undang-undang yang wujud yang

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berprinsip ‘paterniti andaian’ dan penghakiman secara ‘ex parte’ bagi memberikan seorang wanita tuntutan bahawa anak luar nikah itu kepunyaan tertuduh tertentu, sistem undang-undang Barat telah menempatkannya dalam undang-undang sebagai bukti. Di sisi lain, dalam undang-undang Islam, penerimaan bukti sebagai muktamad dalam menetapkan atau menafikan paterniti adalah suatu perkara yang berkontroversi di kalangan ulama. Ada yang meluluskan sebahagiannya dan yang lain menyokong penggunaan sepenuhnya. Ini merupakan satu lagi kes yang menarik bagi isu pengharmonian antara Islam dan sains. Dalam landskap perundangan terbahagi ini, pendekatan yang terpilih bagi keterangan dan bukti akan menganggap ia selaras dengan undang-undang Islam. Tetapi pendekatan ini bukan sahaja akan diragui atas alasan metodologikal tetapi juga polemik dari segi penerimaan sosial. Kajian ini menegaskan pendekatan berasaskan bukti dikawal selia untuk menangani pengharmonian dengan undang-undang Islam.

**Kata Kunci:** Ujian Paterniti DNA, Pengharmonian, Pendekatan berasaskan bukti..

### Introduction

Unlike Western legal system which is a composite of judge-made law and statutory enactments of the sovereign states, Islamic law primarily derives its laws from revealed sources, namely the Qur`an and the Sunnah. But to relate these two sources to human changing conditions and detail their operational rules, *ijtihad* (juristic reasoning) is pivotal. It is, therefore, *ijtihad* which enables Islamic legal system to dynamically guide Muslims in decision making about accommodation or otherwise of new elements, such as DNA test of paternity into its corpus. Nevertheless, the scope and extent of *ijtihad* has been a matter of controversy since the dawn of developing Islamic legal theory, i.e. some advocate its more liberal exercise (favor extensive marriage between human rationality and revealed text) others call for more text-oriented-cum-literal construction of the law. Consequently, the juristic divide on admissibility of DNA test of paternity is caused by this divergence in methodology. In keeping with traditional methods of proving paternity, one body of opinion rejects its application in cases where paternity is established by marriage (*termed as firāsh*), or testimony of eyewitnesses (*shahādah*) or admission (*iqrār*). Mainly because if allowed, it will be *ultra vires* of the Qur`an and Sunnah. Others advocate its full use even at the expense of these methods. To blindly imitate the first approach, we may end-up le-

gitimizing illegitimate progeny merely on the assumption that they are born within the wedlock (*firāsh*)- due to the erosion of marriage fidelity in some societies, and adhering to second trend has the risk of “biologizing” the issue of paternity wrecking of the marriages by encouraging unwarranted verification of one’s child’s legitimacy just for confirmation. To argue for regulated harmonization between juristic methods and DNA test of paternity is therefore, the option which this paper intends to articulate. In doing so, first, it outlines the juridical structure of traditional methods of establishing or negating paternity; second, it briefly describes DNA, third, it deals with the debate over the use of DNA for proving and negating paternity; and finally, it outlines the framework for harmonization between science and Islamic law on the issue followed by a conclusion.

### Classical Methods of Establishing or Negating Paternity

Classical Islam law identifies four criteria for the legitimacy of paternity. They are: 1) the existence of a valid marriage; 2) *bona fide* coitus with a woman mistaken to be one’s wife; 3) contracting an irregular marriage such as the one done during the state of *ihram*- thinking it to be proper; and 4) marrying a woman in good faith but being ignorant of the fact that it was prohibited *ab initio*. The reason is that: existence of marriage *ipso facto* is an evidence of paternity by virtue of the hadith *al-waladu li al-firāsh* (the child is to the marriage bed, and to the adulterer the stone as proclaimed by the Prophet<sup>1</sup> and in all other situations there is a semblance of legitimacy of sexual intercourse in the thinking of the male partner in question.<sup>2</sup>

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<sup>1</sup> Muslim Ibn al-Hajjaj, *Sahih Muslim* (Beirut: Dar al-Kitab al-Arabi, 2004), vol. 1, p. 37. Kitab al-riḍā’, Ḥadīth No. 1458.

<sup>2</sup> Ibn Qudāmah, ‘Abd Allah ibn Ahmad, *Al-Mughnī* (Riyadh: Maktabat al-Riyād al-Ḥadīthah, 2004), vol.7, p. 427; ‘Alī Muḥy al-Dīn al-Qaradāghī and Muhammad ‘Alī al-Muhammadī, *Fiqh al-Qadāya al-Ṭibbīyyah al-Mu‘āṣirah* (Beirut: Dar al-Bashā’ir al-Islamiyyah, 2006), pp. 344-345; Anas Hassan Muhammad Najī, *Al-Basmah al-Warathiyyah wa Mada Mashrū‘iyyatihā fi Ithbāt wa Nafyi al-Nasab* (Iskandariyyah: Dar al-Jāmi‘ah al-Jadīdah, 2010), p. 156.

Under normal circumstances, therefore, the legitimacy of the child born in Islam is settled by the above standards set by substantive Islamic law. However, in the case of a dispute about someone's paternity, the procedural law of Islam identifies the following methods by which the issue can be disposed judicially:

1-The occurrence of licit coitus between the couple termed as (*fi-rāsh*). This is a method which constitutes a legal presumption regarding the legitimacy of a child the moment there is documentary proof of the marriage between a man and woman or they are seen to live as a husband and wife (*shuhrah*) by people of their locality. This alone suffices without digging into the occurrence of the real act of coitus between them as such- intruding into private aspect of life is inviolable/ privileged in Islamic law. Nonetheless, this juristic presumption does not rests in fallacy but was connected to the stipulations of empirical possibility of the actual occurrence of coitus between the couple as the basis of ascribing the paternity of the child to them as maintained by the majority of jurists. However, the Ḥanafīyyah held that the conclusion of marriage contract *per se* is sufficient as proof of a child's paternity. Majority further stipulated that for the child to be attributed to the married couple: i) the coitus must be possible after their legal marriage<sup>3</sup>; ii) the husband should be capable of coitus; iii) the child should be born within the minimum period of gestation which is six months from the date of marriage contract.<sup>4</sup> A paradoxical situation, however arises when the jurists still attributed a post-humous- divorce child to the ex-husband even if the divorcee gives birth to the child within two years from the date of divorce according to Ḥanafīyyah, four years according to Shāfi'īyyah and Ḥanābilah and five years according to Mālikīyyah with the proviso that the wife had not ad-

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<sup>3</sup> Muhammad Ibn Abu Bakr, Ibn Qayyim, *Zād al-Ma'ād* (Kuwait: Mu'assasat al-Rayyān, 2011), vol. 4, p. 161.

<sup>4</sup> Ibn Qudāmah, *Al-Mughnī*, vol. 10, 466; Ibn Rushd, Muhammad Ibn Ahmad, *Bidāyat al-Mujtahid wa Nihāyat al-Muqtasid* (Beirut: Dār al-Fikr, 2001), vol. 2, p. 530.

mitted the end of her post-divorce waiting period (*'iddah*). Similar assumption applies in the case of a widow.<sup>5</sup>

**2- Claiming the paternity of a child (*istilhāq*):** If any man claims that a certain child belongs to him, the child would be his provided that: i) he is mentally sound; ii) the child can factually be his; iii) the child is of unknown lineage; iv) he does not reveal that the child is the product of his illicit sexual intercourse (biological); and v) no other person contests his claim.<sup>6</sup>

**3- Eyewitnesses' testimony:** Testimony by witnesses to the birth of a child is the most reliable method of proving paternity in Islamic law provided that they fulfill the legal requirements set by the jurists. The most essential among them are: i) quantum- two male witnesses according to the majority, one male and two female witnesses according to Ḥanafīyyah, one female witness according to Ḥanābilah- as the Prophet declared the testimony of a single mid-wife as sufficient evidence for proving paternity; ii) uprightness of character (*'adālah*) as an indication of the witnesses' credibility.<sup>7</sup>

**4- Physiognomy (*qiyāfah*):** This was resorted to when the paternity of a child was contested because there was neither any evidence of *fī-rāsh* nor testimony by witnesses. A physiognomic expert having the skill in tracing the resemblance of physical features between a father and a child was called to resolve the case. Majority<sup>8</sup> accepted this as another mode of proving paternity whereas Hanafīyyah<sup>9</sup> opposed it.<sup>10</sup>

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<sup>5</sup>Ibn 'Ābidīn, Muhammad Amīn, *Radd al-Makhtār* (Kuwait: Maktabah al-Rashīdiyyah, 2006), vol. 2, pp. 868-869; Al-Shīrāzī, Ibrāhīm ibn 'Alī, *Al-Muhadhdhab* (Beirut: Dār al-Fikr, 1995), vol.2, p. 129; Ibn Qudāmah, *Al-mughnī*, vol.9, p. 120.

<sup>6</sup> Ibn Qudamah, *Al-Mughnī*, vol. 6, p. 12.

<sup>7</sup> Ibn Rushd, *Bidāyat al-Mujtahid*, vol.2, p. 628; Al-Kāsānī, 'Alā' al-Dīn ibn Ma 'ūd, *Ba'ī' al-Sana'ī I fī Tartīb al-Shara'ī* (Beirut: Dār al-Kutub al-'Arabiyyah, 1982), vol.9, p. 55; Al-Shirbīnī, Muhammad al-Khaṭīb, *Al-Mughnī al-Muḥtāj* (Cairo: Dār al-Ḥadīth, 2006), vol. 4, p. 224; Ibn Qudāmah, *Al-Mughnī*, vol. 7, p. 473.

<sup>8</sup> The main argument by majority is the *ḥadīth* by 'Ā'ishah that the Prophet (s.a.w.) came to me one day with smiling, happy face. He said, "Do you see that a Mujāzz (an adept in understanding Physical Features) observed the feet of Zayd ibn Ḥārithah and

**5- Lot-Casting (*qur'ah*):** This was resorted to when two or more claimants of a child of unknown paternity produced convincing evidence of equal standard to prove their claim of paternity. In such instances the judge would cast lot between them. Caliph Ali is said to have decided a case on this basis among three people who claimed to have equal share over the paternity of a child in consequence of their illicit intercourse with his/her mother during her single period of purity. However, this is a disputed method as minority of the jurists accepts it but majority opposed it by equating it to gambling.<sup>11</sup>

**6- *Li 'ān* for negating paternity:** *Li 'ān* means oath of condemnation by both husband and wife. This arises in a situation where a husband accuses his wife of infidelity (illicit sex with another man) without being able to substantiate his claim with independent proof. The nature and process of *li 'ān* were delineated by the Qur'an:

*“And for those who accuse their wives, but have no witnesses except themselves, let the testimony of one of them be four testimonies (i.e. testifies four times) by God that he is one of those who speak the truth. And the fifth (testimony) (should be) the invoking of the Curse of God on him if he be of those who tell a lie (against her). But it shall avert the punishment (of stoning to death) from her, if she bears witness four times by God, that he (her*

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Usāmah ibn Zayd and informed that these are feet belonging to a common string”, see Ibn Hajar al-‘Asqalānī, *Fath al-Bārī*, (Beirut: Dār Iḥyā’ al-Turāth al-‘Arabī, 2002), vol. 12, p.75.

<sup>9</sup> The main reason for the Ḥanafīyyah is the *ḥadīth* by Abu Hurairah: "A man said to the Prophet: 'My wife gave birth to a black boy.' The Prophet asked him, 'Do you have camels?' The man replied, 'Yes.' The Prophet asked him, 'What is their color?' The man replied, 'Red.' The Prophet again asked him, "Is there a grey one among them?" The man replied, 'Yes.' The Prophet then asked, 'Whence comes that?' The man replied, 'Maybe it is because of heredity.' The Prophet said, 'Maybe your [latest] son has his color because of heredity" see Muslim, *Sahih Muslim*, vol. 3, p. 23.

<sup>10</sup> Ibn Rushd, *Bidāyat al-Mujtahid*, vol. 2, p. 328, Ibn Qudāmah, *Al-Mughnī*, vol. 6, P. 347; al-Kāsānī, *Ba`i` al-Sana`i` fi Tartib al-Shara`i*, vol. 8, p. 498.

<sup>11</sup> Ibn Qudāmah, *Al-Mughnī*, vol.14, p. 345; Ibn Qayyim, *Zād al-Ma`ād*, p. 384; Ibrāhīm ‘Alwānī, *Madā Mashrū`iyyat Tansib Walad al-Zinā fi daw`i al-Aḥkām al-`Āmmah li al-Nasab* (Beirut: Dār al-Kitāb al-Qānūnī, 2009), pp. 66-77.

*husband) is telling a lie. And the fifth (testimony) should be that the Wrath of God be upon her if he (her husband) speaks the truth” (24: 4-6).*

This process of oath taking was practically administered in the case of ‘Uwaymir which was the reason for the revelation of this injunction.<sup>12</sup> Additionally, its implication in term of negating the paternity of a child or pregnancy on such account was laid down in the case of Hilāl ibn Umayyah. The facts in the case of Hilāl ibn Umayyah were as follows:

*He accused his wife in the presence of the Prophet of (committing adultery) with Sharīk ibn Ṣahmah. The Prophet said: “Bring proof or you will feel the ḥadd (punishment) on your back.” Hilāl ibn Umayyah said: “By the One Who sent you with the truth, I am telling the truth, and God will send down revelation concerning my situation which will spare my back.” Then the following was revealed: “And for those who accuse their wives, but have no witnesses except themselves, let the testimony of one of them be four testimonies (i.e., testifies four times) by God that he is one of those who speak the truth. And the fifth (testimony should be) the invoking of the curse of God on him if he be of those who tell a lie (against her). But it shall avert the punishment (of stoning to death) from her, if she bears witness four times by God that he (her husband) is telling a lie. And the fifth (testimony) should be that the wrath of God be upon her if he (her husband) speaks the truth.” Hilāl ibn Umayyah stood up and bore witness, and the Prophet said: “God knows that one of you is lying. Will either of you re-*

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<sup>12</sup> “‘Uwaymir al-‘Ajlanī came to ‘Āṣim ibn ‘Adī al-Anṣārī and said to him, “‘Āṣim! ‘What do you think a man who finds another man with his wife should do? Should he kill him and then be killed himself, or what should he do?’” ‘Āṣim asked the Prophet about it. But this was puzzling to the Prophet so he did not answer him. When ‘Āṣim returned to his people, ‘Uwaymir came to him and said: “‘Āṣim! what did the the Prophet say to you?” ‘Āṣim said,” The Prophet was astounded and did not say anything.” ‘Uwaymir said, “By Allah! I will not stop until I ask him about it!” ‘Uwaymir stood up and went to the Prophet in the middle of the people and said, “ O Messenger of God! What do you think a man who finds another man with his wife should do? Should he kill him and then be killed himself, or what should he do?” The Prophet said: “Something has been sent down about you and your wife, so go and bring her.” Thereafter, the Prophet administered oath of condemnation on both where they mutually cursed one another in the presence of the Prophet, and thereafter the Prophet separated them forever”, see Muslim, *Sahih Muslim*, vol. 1, 800.

*pent?" Then she stood up and affirmed her innocence. On the fifth time, meaning that the wrath of God be upon her if he (her husband) speaks the truth, they said to her: "It will invoke the wrath of God." Ibn 'Abbās said: "She hesitated and backed up, until we thought that she was going to recant. Then she said: "By God, I cannot dishonor my people forever." Then the Prophet said: "Wait and see. If she gives birth to a child with black eyes, fleshy buttocks and big calves, then he is the son of Sharīk ibn Ṣaḥmah." And she gave birth to such a child. Then the Prophet said: "Had it not the matter been settled by the Book of Allah, I would have punished her severely."<sup>13</sup>*

In view of the above, classical jurists held that the legal method of negating a child's paternity by the father is exclusively by *li'ān*.

### **An Outline of DNA Test of Paternity**

By the 1940s, scientists were confident that DNA (deoxyribonucleic acid) is the genetic material that is passed on from parents to offspring and functions as the chemical blueprint of life. It has the structure of a double helix as discovered through X-ray crystallography by James Watson and Francis Crick in 1953 with the help of Maurice Wilkins and Rosalind Franklin.<sup>14</sup>

DNA consists of two long strands held together by hydrogen bonds. The strands are twisted to form the helical structure. Each strand is made up of groups of nucleotides. Each nucleotide contains a nitrogenous base, a ribose sugar and a phosphate molecule. All nucleotides have a common ribose sugar and phosphate molecule. They only differ in the type of base they are attached to. The four types of bases found in DNA are adenine, thymine, cytosine and guanine. They are commonly abbreviated to A, T, C and G. It has been mentioned before that the two strands are held together by hydrogen bonds. These bonds are formed between the bases of each nucleotide in each strand. Bonds can only be

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<sup>13</sup> Ibn Majah, Muhammad Ibn Yazid, *Sunan Ibn Majah* (Beirut: Dar al- Fikr, 2003), vol.10, Ḥadīth No. 2067.

<sup>14</sup> Gaensslen R.E. et al, *Introduction to Forensic Science and Criminalistics* (Library of Congress, 2008), p. 243.



formed between adenine in one of the strands and thymine on the other strand in the same position, and between cytosine in one of the strands and guanine on the other strand. A bonds with T and C bonds with G only. They are said to be complementary to each other and known as base pairs. The DNA strands are packed into chromosomes and are found in the nucleus of everybody cell.<sup>15</sup>

Each species have a specific number of chromosomes in their body cells. Humans have 46 chromosomes that are paired together. This means humans have 23 pairs of chromosomes. The sex chromosomes are one of them and they are involved in determining human gender. Males have the genotype (genetic content) of XY meaning the X chromosome and the Y-chromosome while females have the genotype XX.<sup>16</sup> No two individual's DNA are the same except for identical twins because they come from the same fertilized eggs. All the 46 chromosomes are found in the nucleus of each of human body cells except in the gametes where only half is present and hemoglobin where none is present. The reason why humans have them is because the necessary proteins and enzymes that are needed for vital metabolic reactions to occur in human body are coded for the DNA found in these chromosomes. Amino acids constitute these proteins and enzymes. There are 20 amino acids found in nature. The sequence of bases in the DNA determines the sequence of amino acids in the protein with each amino acid being coded for by a group of three bases. This is known as the genetic code. A group of three bases is referred to as a codon. More than one codon codes for one amino acid. This is referred to as degeneracy of the genetic code.<sup>17</sup>

Humans inherit half of their chromosomes from their mother and the other half from their father. In paternity tests, a sample of DNA can be taken from an individual and compared to his mother or father to see any similarity using the process of RFLP (restriction fragment length polymorphism analysis and the Southern Blot technique or PCR (poly-

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<sup>15</sup> Ibid. p. 244.

<sup>16</sup> Ibid. p. 243.

<sup>17</sup> Ibid, pp. 246-248.

merase-chain reaction) and Dot Blot analysis. Another way of determining the biological mother of an individual is to analyze mtDNA (mitochondrial DNA) that is found in mitochondria of cells and passed on directly from the mother. It is accurate because the mtDNA does not undergo random mutation as rapid as nuclear DNA. Y-chromosome analysis can also be used to identify the father of a male individual. PCR is usually used in this case.<sup>18</sup> As such clinical DNA test of paternity has developed into a lucrative commercial enterprise in the West as it is regarded conclusive in proving or negating paternity.

### Juristic Debate on DNA Test of Paternity

While jurists unanimously approve the use of DNA Test as a means of connecting unidentifiable children or dead bodies to their legal parents or next of kens,<sup>19</sup> they have disagreed on its evidentiary value as an independent and separate method for proving and negating paternity.

#### 1. DNA Test for Proving paternity

The majority of jurists<sup>20</sup> oppose it while minority<sup>21</sup> supports it. The main arguments by opponents is that criterion to determine paternity is a

<sup>18</sup> Thieman W. J. and Michael A. P., *Introduction to Biotechnology* (San Francisco: Pearson, 2009), p. 202.

<sup>19</sup> For instance, *The Islamic Jurisprudence Council of the Islamic World League* (Organization of Islamic Countries) in Makkah in its 16th session (21-26/10/1422 Hijrah/5-10 January 2002) held that Deoxyribonucleic acid (DNA) fingerprinting may be used in proving paternity provided that its procedures are secure and do not overrule other Shari'ah modes of proof. However, it is not allowed for negating paternity in lieu of *li'an* (the oath of condemnation sworn in the case of husband's allegation of adultery against his wife). Neither should it be used to negate or affirm legally proven paternity. However, it is admissible to prove the lineage of the children of unknown paternity and used for identification purpose of bodies in the case of massive destruction of human life on account of natural or manmade disasters. See *The Islamic Jurisprudence Council of the Islamic World League*, at <http://www.islamvioce.com> (accessed 21/12/2014).

<sup>20</sup> Some representatives are: al-Ashqar:2001; al-Khayyāt:2002; al-Wāṣil:2002; al-Zuhailī:2004; al-Qaradāghī:2006; al-Ka'bi:2006; Ṣamad : 2007; Ṣufyān:2007; Sha'bān:2008; Sa'id:2008; Nāji:2010.

matter within the province of *Shari'ah* and not science because: firstly, God has prescribed oral testimony (*shahādah*), admission (*iqrār*) as the legitimate methods of proving paternity while the Prophet designated *firash* as the primary method for its establishment. These methods cannot be overridden by other means. Secondly, the Prophet categorically overruled resemblance in term of physical features (*qiyāfah*) 'biogenetic matching' as a basis for kinship. This happened in three instances.1) In the case of a man from Fazārah who denied his child's paternity on account of being of dark skin, the Prophet ruled by saying: "...his color is because of heredity-*irqah naz`*";2) The Prophet reiterated the same principle in the case of Hilāl. In this case, after the application of *li'ān* (oath of condemnation) between the complainant and his wife, he stated: "...watch out if his wife delivered a curly- hair- of dark skin child, then it would belong to Sharīk (suspect with whom his wife might have had sexual intercourse). Once his prediction came true, he commented: "Had it not been resolved by God's ruling, I would have ruled otherwise"; 3. the Prophet's decision in favour of 'Abd ibn Zam'ah by attaching the paternity of the child to his father as the owner of *firāsh* in spite of the child's physical resemblance to 'Utbah who had actually fathered him (a counter-claim by Sa'd).<sup>22</sup> Additionally, 'Umar connected the paternity of a child to two men who claimed to have had sex with the child's mother during the same purity. Finally, DNA test of paternity in addition to its amenability to technical errors is also susceptible to fabrication, thus is not definitive in its accuracy to establish paternity.<sup>23</sup>

The proponents, on the other hand, argued that: firstly, methods of proof in Islamic law partaking in the domain of secular means

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<sup>21</sup> This position is advocated by Hilālī:2001, 'Uthmān: 2002 and some others by way of implications. See. al-Ka'bi, pp. 374-376.

<sup>22</sup> *Ibn Majah, Sunan, vol. 3, Ḥadīth No. 2004.*

<sup>23</sup> 'Abd al-Ḥusnī, Mahmūd Ṣamad, *Al-Basmah al-Warathiyah wa Madā Hujjituha fi al-Ithbat* (Iskandariyyah: Dār al-Fikr al-Jam 'ī, 2009), pp. 724-733; Nājī, *Al-Basmah al-Warathiyah wa Mada Mashrū'iyatihā fi Ithbāt wa Nafyi al-Nasab*, pp. 66-228; Khālīd Muhammad Sha'bān, *Mas'ūliyyat al-Ṭibb al-Shar'ī* (Iskandariyyah: Dār al-Fikr al-Jamī'ī, 2008), pp.459-460.

(*wasā'il*) and not matter of rituals are not restricted to traditional methods of proof and evidence but extendible to include other emerging sure means of discovering facts such as scientific evidences like DNA test of paternity. According to Ibn Qayyim: "Evidence (*al-bayyinah*) as an umbrella term stands for all that which manifests the truth and disclose it. Anyone who restricts it to two eyewitnesses or four of them or one of such witnesses does not do justice to the true signification of the term. The Holy Qur'an never uses the word *bayyinah* to mean two witnesses alone. The Qur'anic connotations of the word *bayyinah* therefore, are *hujjah* (proof), *dalīl* (evidence) and *burhān* (clear proof)."<sup>24</sup> Secondly, practically, other methods of discovering fact were given recognition by both the Qur'an and the Sunnah. For instance, the Qur'anic account about Yusuf and his accuser is an episode which provides the *Shar'ī* basis for dependence on material evidences proffered by experts. In this incident, Yūsuf's (*'alayhi al-salām*) struggle to escape and the resultant tearing of his shirt from the back and the opinion of a wise man narrated by the Qur'an as *wa shahida shāhidum min ahlihā* and bore testimony a person from among her kinsfolk was an indicator (*qarīnah*) of Yusuf's claim for innocence.<sup>25</sup> Accordingly, this verse provides a textual proof for admissibility of opinion by people of insight and expertise on matter which are beyond the knowledge of common witnesses, such as DNA forensic expert. Similarly, the fact that the Prophet has approved the establishment of paternity on the basis of physiognomy's opinion is another textual evidence which supports relying on DNA test to resolve dis-

<sup>24</sup> He further has argued, "God sent His messenger to establish justice among mankind. Justice in the estimation of God stands so prominent that maintaining the needed equilibrium between what is in the heavens and in the earth depends upon it. Henceforth whatever establishes justice and upholds it can be considered an integral to the revealed Sharī'ah. To assume that God as the All-knowing, the All-just and the Supreme Adjudicator when specifying some ways for establishing justice, overrules the possibility of other emerging more reliable and stronger ways to establish justice, will be a negation of His all attributes as such." See Ibn Qayyim, Muhammad ibn Abū Bakr, *al-Ṭuruq al-Hukmiyyah fi al-Siyāsah al-Shar'iyyah* (Cairo: Dār al-Madanī, 2005), pp.13-15.

<sup>25</sup> The Qur'an 12: 2-27; Al-Qurṭubī, Muhammad ibn Ahmad, *Al-Jāmi' li Ahkām al-Qur'ān* (Beirut: Iḥyā' al-Turāth al-'Arabi, 1966), vol.9, pp. 172-173.

putes over paternity. This happened in the case of removing doubts about Usāmah's lineage from Zaid by his detractors. According to the tradition, Mujzāz, a physiognomist, by looking at Zaid's and Usāmah's feet observed that, "these feet look alike."<sup>26</sup> Following this precedent, `Umar used to ascribe the paternity of illegitimate children of pre-Islamic era to their claimants on the basis of physiognomist's opinion. Finally, common sense dictates that if paternity can be established by traditional methods, such as testimony of a mid-wife about the birth of a child or on mere claim of paternity known as *istilhāq*- attachment of lineage without verifying the truth of such a claim, or an opinion by a physiognomist, modern means of proofs, such as DNA test which is more reliable and accurate in terms of evidential weight cannot be dismissed as inadmissible today.<sup>27</sup>

However, the opponents disagreed, by saying: firstly, the methods of proving paternity are restrictive, namely, fixed by the Sharī'ah and not open-ended to be accommodative of other means, such as DNA test. This is particularly the case, when there is proof of paternity in the forms of *firāsh*, *shahādah* and *iqrār*. They refuted the wider interpretation of the term *bayyinah* by Ibn Qayyim by maintaining that the term *bayyinah* in this context means testimony by an eyewitness (*shahādah*). The reason is because the Prophet fixed this to be the connotation in the case of Hilāl Ibn Umayyah. In this case, after hearing about the requirement of producing four eyewitnesses to prove the accusation of adultery, Hilāl retorted, "If I see a man fornicating with my wife, should I have to bring four male eyewitnesses?" The Prophet replied: "You produce *bayyinah* (four eye witnesses), or *ḥadd* (fixed punishment) would be on your

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<sup>26</sup> Al-Bukhārī, Muhammad ibn Ismā'īl, *Sahih al-Bukhārī* (Beirut: Dār al-Fikr, n.d.), vol.12, p.57.

<sup>27</sup> Şamad, *Al-Basmah*, pp.718-724; Nājī, *Al-Basmah*, pp. 64-228; Sha'bān, *Mas`ūliyyat al-Ṭibb al-Shar'ī*, pp. 459-460; Muhammad Shahīm 'Alī Sa'īd, *Al-Basmah al-Warathiyyah wa Athāruhā 'alā Aḥkām al-Li'ān* (Iskandariyyah: Dār al-Jāmi'ah al-Jadīdah, 2008), p.70.

back.”<sup>28</sup> Secondly, even as an indicator/ piece of circumstantial evidence (*qarīnah*), DNA’s evidentiary weight is not conclusive as it still rests on probabilities and is tainted with doubts and obscurity i.e., DNA testing yields 99.9% positive result in the population of ten million people of a particular locality and the rate of error is 5%, thus is not definitive enough to prove paternity.<sup>29</sup> Lastly, the admissibility of physiognomist’s opinion is again *ultra virus* of the Prophet’s decision in the case of Hilāl as it laid down the rule that ‘biological matching’ has no validity in Islam as we noted before.<sup>30</sup>

The supporters, however, counter argued by advancing the view that: firstly, it is true that the Sharī‘ah has prescribed *firāsh*, *shahādah* and *iqrār* as the primary methods of establishing paternity but the rulings of Sharī‘ah on such matters do not partake in *ta‘abbudī* domain so as not to be amenable to human rational articulation. *As a matter of fact, even firāsh, shahādah and iqrār by themselves do not yield positive knowledge about the lineage as no one is allowed to witness the actual act of coitus from which the pregnancy and child birth result- certainty is not forthcoming-(no 100 exactitude is achieved). Hence, the Sharī‘ah sufficed for the proof of paternity on legal presumption of marriage-bed and other methods which they may not truly reveal the truth of coitus which is the real cause of pregnancy. DNA testing, on the other hand, can unveil the truth about paternity as a form of scientific eye which is more capable of ascertaining paternity than traditional methods as detailed in the classical fiqh. Accordingly, it yields more positive knowledge about the connection of the birth to the owner seminal fluid in term of resolving the paternity issue vis-a-vis firāsh, shahādah and iqrār which are more of speculative than sure means. Hence, DNA, test of paternity should take priority not only over the opinion by physiognomist but even firāsh, sha-*

<sup>28</sup> Al-Shawkānī, Muhammad ibn ‘Alī, *Nayl al-Awtār* (Riyadh: Dār ‘Ālam al-Kutub, 2003), vol.7, p .63; Sha‘bān, *Mas‘ūliyyat al-Ṭibb al-Shar‘ī*, p.459; Sayed Sikandar Shah Haneef, *Homicide in Islam: Legal Structure and the Evidence Requirements* ( Kuala Lumpur: A.S. Noordeen, 2000), p. 220.

<sup>29</sup> Sha‘bān, Ibid. p. 446; Nājī, *Al-Basmah*, p. 101.

<sup>30</sup> Nājī, Ibid, p. 221.

*hādah and iqrār.*<sup>31</sup> Secondly, even in cases which the Prophet ruled otherwise, notwithstanding, he indicated that biological reason (genetic) is an important element in determining paternity. For instance, in the case of the man from Fazārah, the Prophet in spite of physical non-resemblance between the child and the father, rejected the latter's skepticism about his genetic link to the child by commenting that, "*naz'ata 'irq/* may be genetically mandated." By doing so, he laid down the foundation for subsequent findings in the field of genetic that "physical resemblance genetically will not be shared by all the offspring."<sup>32</sup> Similarly, in the case of Hilāl, the Prophet's remark, "had it not been resolved by God, I would have ruled otherwise," underlines the significance of genetic-code in determining paternity.<sup>33</sup> Likewise, in the case of `Abd ibn Zam'ah in spite of according the boy's custody to him, the Prophet still ordered Sawdah bint Zam'ah to veil herself from the boy because according to Sa'd (her brother), this child was fathered by his brother, thus was a stranger to Sawdah. Here also the Prophet pointed to the pivotal place of biological evidence in deciding paternity by way of *obito dicta*.

Nonetheless, the opponents dismiss all these arguments as fictitious, particularly, to them in all the above incidents, the Prophet has reiterated the overriding principle of "*al-waladu li al-firāsh,*" implying that licit sexual relationship supersedes all other means of determining paternity and once established cannot be questioned at all. The juristic logic is that the stability of marriage and matrimonial harmony as the

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<sup>31</sup> Sa'd al-Dīn Mis'ad Hilālī, *Al-Basmah al-Warathiyyah wa 'Ilāqatuhā al-Shar'iyyah* (Kuwait: Majlis al-Nashr al-'Ilmī, 2001), p. 240; Şamad, *Al-Basmah* p.732; Burāqa'ah Sufyān, *Al-Nasab wa MadaTa`thīr al-Mustajiddāt al-'Ilmīyyah fi Ithbatihī* (Riyadh: Dār Kunūz Eshbelia, 2007), pp. 347-362.

<sup>32</sup> Muhammad 'Alī al-Bār, *Khalq la-Insān Bayn al-Ṭib wa al-Qur`ān* (Jeddah: Dar al-Sa'ūdiyyah, 1986), p.153.

<sup>33</sup> Nājī, *Al-Basmah*, p. 223.

overriding objective of marriage in Islam will be in jeopardy if the paternity of a child born within wedlock is open to scientific verification.<sup>34</sup>

## 2. DNA Test for Disproving Paternity

The debate also rages among present day jurists on using DNA to negate paternity. This is known as test of exclusion in law. It is a settled principle in the classical Sharī‘ah that once a child’s paternity is proven, it cannot be negated unless a husband reasonably believes that the child that his wife has begotten is illegitimate. If this be the case, in the absence of conclusive proof, he can negate it by *li‘ān* (oath of condemnation) only. As to what will be the position of DNA test in this process, modern jurists are divided: the majority of the contemporary jurists oppose it by contending that the only legal way to exclude a child conceived during the subsistence of one’s marriage is by *li‘ān*. The minority, on the other hand, approves its use to render the recourse to *li‘ān* superfluous.

The main arguments by the opponents are: first, DNA in terms of evidentiary weight is similar to physiognomist’s finding (speculative and open to suspicion), thus is unacceptable to override *firāsh* which is conclusive and definitive. Secondly, *li‘ān* does not merely involve the question of negating paternity but also has the effect of irrevocably terminating the marriage and fending off *qadhaf* (false accusation of adultery) against the husband. Hence, DNA test even if it can negate paternity is not a legal means of disposing other ethico-legal issues inextricably interwoven with *li‘ān*. Lastly, the *ratio legis* of *li‘ān* is to deter people from rash in hurling charge of infidelity against their wives. Nevertheless, it may be resorted to in order to ascertain the veracity of husband’s accusation so as to avoid unnecessary frequent recourse to *li‘ān*.<sup>35</sup>

<sup>34</sup> Ayman Shabana, “Paternity Between Law and Biology: The Reconstruction of Islamic Law of Paternity in the Wake of DNA Testing,” *Journal of Religion & Science*, 2012, vol. 4, issue 1, p. 231.

<sup>35</sup> ‘Alī Muḥy al-Dīn al-Qaradāghī, *Al-Basmah al-Warathiyah min Manzūr al-Islamī* (Mecca: Fiqh Academy, 2002), p. 365, Nājī, *Al-Basmah*, p. 310; Sufyān, *Al-Nasab wa*



The supporters, on the other hand, argue that the process of *li'ān* is subject to the mandatory condition of non-availability of proof in the form of the testimony by four witnesses regarding the allegation of adultery by the husband against his wife. DNA test of pregnancy (or paternity) as a form of conclusive circumstantial evidence (*qarīnah qāt'ah*) performs the same role as testimony by eye witnesses which can circumvent the recourse to *li'an*. Its admissibility does not override the law of *li'ān* analogous to non-fulfillment of a legal stipulation, such as the unavailability of required quantum of proof in waiving a crime punishable by *ḥadd*.<sup>36</sup>

The opponents nevertheless counter-argued by advancing the view that DNA test of paternity, no matter how convincing, cannot substitute the testimony of four eye witnesses to serve as a bar to *li'ān*.<sup>37</sup> Moreover, allowing DNA to replace *li'ān* is tantamount to flouting the prohibition against intrusion into people's private lives which is sacrosanct. The supporters, however, refuted this by saying that DNA test is of more probative value than the testimony of the eyewitnesses, which if forthcoming bars the resort to *li'ān*. Consequently, it is also sufficient to negate the paternity of the child to the father in the case of *li'ān* or prove him wrong.<sup>38</sup> However, its larger ethico-religious implications are not considered seriously by them.

### Framework for Harmonization

From the foregoing, it is clear the debate over the use of DNA test for proving or negating paternity as usual a matter of interpretation. The reason is that the arguments by both opponents and supporters for proving paternity are not definitive in terms of fixation of meaning. As we

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*Mada Ta'thīr al-Mustajiddāt al-'Ilmīyyah fī Ithbātihī*, p. 371; Khalīfah 'Alī al-Ka'bī, *Al-Basmah al-Warathīyyah wa Atharuhā 'alā al-Aḥkām al-Fiqhiyyah* (Jordan: Dar al-Nafā'is, 2006), p. 447.

<sup>36</sup> Nājī, p. 313; Sufyān, p. 375; al-Ka'bī, p. 446.

<sup>37</sup> Nājī, *Ibid.*, p. 316.

<sup>38</sup> Sufyān, *Al-Nasab wa Madā Ta'thīr al-Mustajiddāt al-'Ilmīyyah fī Ithbātihī*, p. 378.

made it clear that textual evidences invoked by both the groups are not definitive, thus paving the way for identifying a framework for harmonization. *In terms of implication also, this issue cannot be classified a dispute over principle but on technicalities and details.* Accordingly, to me the frameworks for harmonization are:

First, in principles all legal scholars have agreed that the question of paternity in Islamic law is primarily legal before it can be regarded as biological. The reason is that begetting a child is part of parental behavior as such it has to be legal before it is biologically feasible. The reason being that in moral philosophy of Islam sexual purity is a non-negotiable core principle and the only outlet through which it can be gratified is through lawful marriage. *Accordingly, genetic method should not replace firāsh as a cause for establishing paternity in the case of morally and legally committed marries couples and only in their case the presumption of paternity as established by the Prophet's edict that " the child for the owner of marriage bed" should not be subjected to DNA verification.* Nevertheless, the same presumption cannot hold true in the case of *shahādah* and *iqrār* as they are not only empirical tools but also contingent upon empirical juristic stipulations according to all classical jurists as we referred in this study. Accordingly, DNA as a scientific method could be used as a means of determining their factual truth in the event their credibility regarding paternity is questioned before the court. I surmise the majority erred in equating *firāsh* as the cause (*sabab*) with *shahādah* and *iqrār* which are methods of proving *firāsh* or paternity (*turuq ithbāt*).

Second, beyond the questionability of the opponent's arguments regarding the probative value of DNA, they are inconsistent when they approve the use of DNA for establishing the lineage of children in the maternity wards or for identifying corpses in the case of tragedies such as earth- quick, plane crash, flood, tsunami etc. The question is: If DNA test amounts only to a conjecture, how can it establish truth in such circumstances?

Third, negating paternity could only warrant *li'ān* if there is no evidence to point to the truth of allegation by the husband. This is again a principle which unites both the opponents and supporters of using DNA

in this instance. Consequently, if we go by broad definition of evidence as conceptualized by Ibn Qayyim and his notion of *qarīnah qāti‘ah* (conclusive circumstantial evidence), then in the absence of eyewitnesses to support the husband’s claim, DNA test can be another material proof to prevent *li‘ān* or let it to proceed. This will not be *ultra vires* of the Qur’an as it deals only with the precondition of *li‘ān* and is not used to invalidate *li‘ān*. I suppose this issue was the dimension which the opponents omitted to deliberate upon.

### Conclusion

In light of the foregoing discussion and moving beyond the polemics as to whether DNA is real/definitive or fictitious/ speculative (*qaṭ‘ī or zannī*), we have to address the issue from the its regulated use, namely, legitimate relatedness and not biological relatedness, the standard by which the legitimacy of paternity is decided in Islamic law. That is why the Prophet (s.a.w.) declared that *al-waladu li al-firāsh*. Nevertheless, the validity of *firāsh* as the standard of child legitimacy cannot be questioned only in the case of law abiding Muslim couples who stay away from morally degrading behaviors such as romancing with others. It is these people who should be benefitting from the law of *al-waladu li al-firāsh*. Turning to biology to ascertain whether their child is from them would be *ultra vires* of the Prophetic declaration and the purpose of Sharī‘ah for preservation of human honor and dignity. In the case of disputed paternity, however, DNA test can be more accurate than the finding of an expert on resemblance of physical features, lot-casting and even attaching a child’s paternity to someone by a mere claim (*istilhāq*) which the classical *fiqh* by and large approved. DNA test also can serve as a modern means of preventing a husband from frivolous use of *li‘ān* and is legitimate to be resorted to similar to the requirement of testimony by witnesses as we outlined in this study.