BRILL

DIE WELT DES ISLAMS 55 (2015) 286-311

DIE
WELT DES
ISLAMS
brill.com/wdi

Biomedical Scientists as Co-Muftis: Their Contribution to Contemporary Islamic Bioethics

Mohammed Ghaly
Professor of Islam and Biomedical Ethics, Center for Islamic Legislation & Ethics (CILE), Qatar Faculty of Islamic Studies (QFIS), Hamad Bin Khalifa University (HBKU), Qatar
mghaly@qfis.edu.qa

Abstract

By the beginning of the 1980s, deliberations on Islam and biomedical ethics started to assume a systematised and collective form through combining contributions from Muslim religious scholars and (Muslim) biomedical scientists. The original idea was that biomedical scientists would inform and educate Muslim religious scholars about the scientific and biomedical aspects of specific bioethical issues. After being equipped with sufficient information about these technical aspects, religious scholars would embark upon their normative role by construing the religio-ethical Islamic standpoint. This proposed strict division between the tasks of biomedical scientists and those of religious scholars did not prove to be viable during the gatherings which hosted both groups. Instead of confining themselves to the informative role, biomedical scientists infringed upon the normative role which is typically assigned to Muslim religious scholars alone. Besides presenting technical information, they also presented their own perspectives on how Islamic scriptures should be employed in order to develop the Islamic religio-ethical standpoints. This article explains how biomedical scientists moved from being just "informants" for the religious scholars to becoming eventually "co-muftis".

* This article is part of the author's research project, "Islam and Biomedical Ethics", VENI grant no. 275–63–003 from the Netherlands Organization for Scientific Research (NWO), received in 2012, when he was affiliated with Leiden University. The author acknowledges the financial support of the NWO. The author also acknowledges the generous support provided by the research Center for Islamic Legislation and Ethics (CILE), Doha, Qatar since he joined them in September 2013. Also due are thanks to the three anonymous reviewers and Morgan Clarke, Thomas Eich and Jenny Schreiber whose critical remarks and useful suggestions improved the final version of this article.

 | DOI 10.1163/15700607-05534P03

Keywords

collective *ijtihād* – extremely prolonged pregnancies – Islam and biomedical ethics – physicians – Muslim religious scholars – *nawāzil*

Tackling novel issues, known in Islamic legal literature as *nawāzil* (sing. *nāzila*) or *qaḍāyā mustajadda*, from an Islamic religio-ethical perspective necessitates practising a certain degree of independent legal reasoning (*ijtihād*).[1] Ethical questions raised by modern biomedical advancements are par excellence part of the *nawāzil* of our contemporary world. In his book entitled *Fiqh al-nawāzil* ([Islamic] Jurisprudence of Novel Issues), the late Saudi religious scholar Bakr Abū Zayd (d. 2008) included a number of bioethical issues. When he discussed resuscitation and its influence on determining death from an Islamic perspective, he described it as *nāzilat al-injāz al-ṭibbī al-ḥadīth* (the novel issue raised by modern medical advancement).[2] According to some researchers, bioethical issues like test-tube babies, organ transplantation, and cloning even belong to a distinct category of *nawāzil*, namely those novel issues whose likes, in whatever sense, have never happened before.[3] The term *al-nawāzil al-ṭibbiyya* (novel issues of medical character) also figures in the titles of some published works on Islam and biomedical ethics.[4] Bearing in mind the peculiar and sophisticated character of novel issues, Muslim religious scholars call for conducting a rigorous and multi-layered investigation before construing the religious ruling (*ḥukm shar'ī*) in a fatwa on such issues, so that the possibility of reaching erroneous conclusions can be kept to the minimum.[5]

The soundness of this required *ijtihād* or rigorous investigation for novel issues is usually dependent upon two main elements, among others. The first element, henceforth the informative element, is devising the right and precise perception (*taṣawwur ṣaḥīḥ*) of the question or issue at hand, sometimes termed in Islamic legal literature as understanding reality (*fahm al-wāqi'*) or

1 Muḥammad Shubayr, *al-Mu'āmalāt al-māliyya al-mu'āṣira fī-l-fiqh al-islāmī* (Amman 2007), pp. 13ff., 23.

2 Bakr Abū Zayd, *Fiqh al-nawāzil: Qaḍāyā fiqhiyya mu'āṣira* (Beirut 1996), vol. 1, p. 214.

3 Manāl al-Ṣā'idī, "Marāḥil al-naẓar fī l-nāzila al-fiqhiyya", in *Naḥwa manhaj 'ilmī aṣīl li dirāsat al-qaḍāyā al-fiqhiyya al-mu'āṣira* (Riyadh 2010), p. 955.

4 Nāṣir al-Maymān, *al-Nawāzil al-ṭibbiyya* (Cairo 2009); Ismā'īl Marḥabā, *al-Nawāzil al-ṭibbiyya 'inda l-muḥaddith Nāṣir al-Dīn al-Albānī* (Riyadh 2010).

5 Musfir al-Qaḥṭānī, *Manhaj istikhrāj al-aḥkām al-fiqhiyya li-l-nawāzil al-mu'āṣira: Dirāsa ta'ṣīliyya taṭbīqiyya* (PhD dissertation, Umm al-Qura University, Mecca 2000), vol. 1, p. 341.

verifying the underlying ground or character of certain issues (*taḥqīq al-manāṭ*). As far as this element is concerned, there is almost unanimity among both pre-modern and contemporary Muslim religious scholars that experts from outside the domains of religious sciences (*ʿulūm sharʿiyya*) can be consulted. These experts can be specialists in medicine, veterinary science, architecture, astronomy, economics, finance or other similar fields.[6] The second element, hereafter the normative element, is approaching the question or issue that has been correctly perceived through the lens of relevant scriptural texts and juristic interpretative methods. This element usually ends by construing a religious ruling (*ḥukm sharʿī*) and thus the whole element is sometimes called *tanzīl al-ḥukm al-sharʿī* (forging the religious ruling).[7] The skill required to master this element is called *al-malaka al-fiqhiyya* (juristic habitus/aptitude).[8] This element has been seen as the exclusive task of competent Muslim religious scholars. In other words, the mufti is always none but the Muslim religious scholar, although he may consult experts in other fields before formulating his final standpoint or fatwa.

In this article, I argue that contemporary deliberations on Islam and biomedical ethics have seriously problematised this type of exclusivity for Muslim religious scholars. This is mainly because of the increasing significance of the aforementioned informative element (i.e., developing the correct perception) and also the considerable difficulty of achieving this task properly. The panoply of breath-taking biomedical advancements which took place from the twentieth century onwards did not arise in isolation. They have had manifold socio- and religio-cultural impacts. For instance, they had enormous impact on some of the most basic concepts in our lives such as health and sickness, life and death and even the very notion of humanity. Against this backdrop, contemporary Muslim religious scholars were not able to develop a well-constructed perception of intricate issues like organ transplantation, cloning, and

6 Ibn al-Qayyim, *Iʿlām al-muwaqqiʿīn ʿan rabb al-ʿālamīn* (Beirut 1991), vol. 1, p. 69; al-Shāṭibī, *al-Muwāfaqāt* (Cairo 1997), vol. 5, pp. 128f.; Frank Vogel, *Islamic Law and Legal System: Studies of Saudi Arabia* (Leiden 2000), p. 138; Musfir al-Qaḥṭānī, *Manhaj istikhrāj al-aḥkām al-fiqhiyya*, vol. 1, pp. 341–3: Aḥmad al-Ḍuwayḥī, "al-Istiʿāna bi-ahl al-ikhtiṣāṣ fī l-ijtihād", *Majallat al-ʿadl* 42 (2009), pp. 21, 39f.; Ron Shaham, *The Expert Witness in Islamic Courts: Medicine and Crafts in the Service of Law* (Chicago 2010); Usāma ʿAlī, "Kalām al-ṭabīb wa atharuh fī l-ḥukm al-sharʿī", *Majallat al-jinān* 1 (2011), pp. 83–113.

7 Bakr Abū Zayd, *Fiqh al-nawāzil*, vol. 1, p. 286.

8 Ibn al-Qayyim, *Iʿlām al-muwaqqiʿīn*, vol. 1, p. 69. For more information about this specific term, see Muḥammad Shubayr, *Takwīn al-malaka al-fiqhiyya* (Doha 1999).

stem cell research without the help of (Muslim) biomedical scientists.[9] The educational background of the overwhelming majority of these religious scholars is almost exclusively theological and religious in nature with no attention paid to biomedical sciences. Also language barriers played a role because most of these scholars have not mastered the English language through which one can have access to first-hand and up-to-date biomedical knowledge. Additionally, the role of biomedical scientists in contemporary deliberations on Islam and biomedical ethics has not been restricted to the informative element but has also infringed upon the normative element, the supposedly exclusive prerogative of Muslim religious scholars. This systematic and frequent involvement of Muslim biomedical scientists in the whole process of *ijtihād*, to my mind a unique and even unprecedented situation in the history of Islamic legal thought, has blurred the borders between the informative role that should be assigned to the biomedical scientists on one hand and the normative role of religious scholars on the other hand. This shift, I argue, has radically changed the position of biomedical scientists, from mere informants to "co-muftis".

Extremely Prolonged Pregnancies: Scientific Dictums Challenging Long-Established Perceptions

In order to demonstrate how different perceptions of the same issue can affect the religious ruling adopted by the religious scholar or mufti, I turn first to pre-modern and contemporary discussions among Muslim jurists on the maximum possible length of pregnancy. In their efforts to draft specific religious rulings (*aḥkām shar'iyya*), pre-modern Muslim jurists were dependent on perceptions largely shaped by the medical knowledge available in their times. Once new knowledge started to challenge previous perceptions, contemporary Muslim jurists felt obliged to critically review the religious rulings drafted by their pre-modern counterparts.

Determining the maximum possible length of pregnancy has been decisive for various rulings related to significant issues in Islamic jurisprudence like establishing and negating paternity (*ithbāt/nafy al-nasab*), and the legal waiting-period before re-marriage (*'idda*) of a pregnant divorcee and her maintenance

9 Throughout the article I use the broad term "biomedical scientists" to describe all those who collaborated with religious scholars. Although most of them are (self-described as) physicians, in Arabic *aṭibbā'*, some of them are not physicians like the IOMS secretary general assistant Aḥmad al-Jundī who studied pharmacology. As will be described, all are also Muslims and committedly so.

(*nafaqa*). For instance, a woman who gives birth to a child after having been divorced or widowed for a period longer than the maximum possible length of pregnancy cannot claim to have been impregnated by her husband, who thus cannot be the legitimate father. Extant sources show that Muslim jurists in premodern times consulted, among other references, the available medical compendia for this purpose. The seminal medical compendium *al-Shifāʾ* (The Cure) of the well-known Muslim physician Avicenna (Ibn Sīnā, d. 428/1037) was consulted by a number of jurists to prove that pregnancy can continue for years. Avicenna's statement, "I have been informed by someone I absolutely trust that a woman, after being pregnant for four years, delivered a viable child whose teeth already grew", was quoted by prominent Muslim scholars such as the Shāfiʿī jurist Fakhr al-Dīn al-Rāzī (d. 606/1210),[10] the Quranic exegete Abū Ḥayyān al-Gharnāṭī (d. 745/1344)[11] and the Ḥanbalī jurist Ibn al-Qayyim (d. 751/1350).[12] Additionally, the concept of the "sleeping foetus" (*al-rāqid*) played a role in shaping juristic conceptions of the possibility of extremely long gestational periods.[13] This notion of a sleeping foetus, understood as an unborn child not manifesting itself and staying in the mother's womb for extremely long periods, was given a medical cast in the writings of some jurists. The Shāfiʿī jurist al-Suyūṭī (d. 911/1505) dedicated two distinct chapters of his *Kitāb al-raḥma fī l-ṭibb wa-l-ḥikma* (The Book of Mercy in Medicine and Wisdom) to the sleeping foetus. One chapter outlines sixteen prescriptions for "waking up" the sleeping foetus. To highlight the medical nature of the prescriptions, some of them are concluded by the phrase "and this is empirically true" (*wa-huwa ṣaḥīḥ mujarrab*). The other chapter, much smaller in size, gives two recipes for making the normal foetus "fall into sleep", again concluded by this (quasi-) medical phrase.[14]

This medical context, together with other socio-cultural factors, contributed to forging an overall perception according to which the gestational period can continue for years. The Ḥanafī school of law held that the maximum length of pregnancy is two years.[15] Opinions within the other Sunni schools of law maintained that pregnancy can continue up to five years or even more.[16] Strikingly enough, early Muslim jurists who inclined towards setting the maximum

10 Al-Rāzī, *al-Tafsīr al-kabīr* (Beirut 2000), vol. 28, p. 14.

11 Abū Ḥayyān al-Gharnāṭī, *al-Baḥr al-muḥīṭ fī-l-tafsīr* (Beirut 1999), vol. 9, p. 440.

12 Ibn al-Qayyim, *al-Tibyān fī aqsām al-Qurʾān* (Beirut, n.d.), p. 339.

13 Susan Gilson Miller, "Sleeping Fetus" in *Encyclopedia of Women and Islamic Cultures* (Leiden 2006), vol. 3, pp. 421–4.

14 Al-Suyūṭī, *al-Raḥma fī-l-ṭibb wa-l-ḥikma* (Cairo, n.d.), pp. 195ff.

15 Al-Bābartī, *al-ʿInāya sharḥ al-hidāya* (Beirut, n.d.), vol. 4, p. 362.

16 Ibn Qudāma, *al-Mughnī* (Cairo 1968), vol. 8, pp. 121f.

length of pregnancy below the two-year limit were marginalised and sometimes even ridiculed. The Mālikī jurist Ibn al-ʿArabī (d. 453/1148) criticised what he called "some of the lenient (*mutasāhilūn*) Mālikī jurists", who claimed that the maximum length of pregnancy is nine months. According to Ibn al-ʿArabī, this opinion was only upheld by erroneous people such as "the naturalists" (*al-ṭabāʾiʿiyyūn*), who believe in astrological determinism.[17]

The aforementioned perception that a period of two years or longer may elapse between the conception of a child and its birth was seriously challenged by modern medical knowledge. In response, some Muslim jurists held that Islamic legal reasoning should be more accommodating of the specialised knowledge that experts in medicine can provide. In his fatwa published in 1910 in his journal *al-Manār*, the prominent Muslim reformist Muḥammad Rashīd Riḍā (d. 1935) highlighted the necessary link – and thus, effectively, the distinction – between medical knowledge and religious rulings in the title of his fatwa, *The Length of Women's Pregnancy from Religious and Medical Perspectives* (*Muddat ḥaml al-nisāʾ ṭibbᵃⁿ wa sharʿᵃⁿ*). This linkage was already clear in the mind of the person who posed the question to which Riḍā was responding, as he asked to what extent modern sciences of medicine and anatomy might affect the credibility of opinions expressed by pre-modern Muslim jurists on this issue. This Tunisian questioner spoke about European physicians in Tunisia who challenged the opinions of early Muslim jurists and argued that these opinions are now based on outdated medical information. Bearing in mind the nature of the issue at hand, the questioner clearly stated that his question was not directed to Riḍā alone but also to "your friend the physician Mr Muḥammad Tawfīq Ṣidqī who is well versed in the science of medicine".[18] The text of Riḍā's fatwa does not clearly indicate if he indeed consulted Ṣidqī for this specific question. However, Riḍā's response frequently underscored the significance of taking biomedical knowledge seriously. For instance, he argued that uncritical acceptance of the opinions expressed by early Muslim jurists on the maximum possible length of pregnancy would contradict the consensus of modern physicians who, thanks to the developed sciences of medicine, anatomy, and physiology, had managed to make the internal parts of the body clearly visible. Riḍā stressed that rejecting modern biomedical knowledge would make many educated Muslims, especially physicians, cease to respect the divine status of their religion.[19]

17 Ibn al-ʿArabī, *Aḥkām al-Qurʾān* (Beirut 2003), vol. 3, p. 80.

18 M. Rashīd Riḍā, *Majallat al-manār* (Cairo 1910), vol. 12, p. 901.

19 Ibid., pp. 900–12.

Unlike Riḍā, the Moroccan scholar and Salafi reformist Muḥammad al-Ḥajwī (d. 1956)[20] believed that the opinions expressed by early Muslim jurists on the possibility of extremely prolonged pregnancies were still relevant and remained reasonable. In 1937, al-Ḥajwī delivered a speech on Tunisian radio under the title *al-Qawl al-faṣl fī aqṣā amad al-ḥaml* (The Conclusive Statement about the Maximum Term of Pregnancy). His quotation of medical references in the speech was integral to making his argumentation convincing for a modernising younger generation. He quoted reports in European medical journals to demonstrate that Western medicine itself is still undecided on this point and that it recognised many physiological causes for late birth.[21]

Both Riḍā's and al-Ḥajwī's approaches show how authoritative medical knowledge had become in twentieth-century juristic argumentation, at least as far as bioethical issues like extremely prolonged pregnancies were concerned, and that is only more the case now. Both camps (i.e., those who prefer a critical review of "outdated" positions adopted by pre-modern Muslim jurists and those who prefer to defend these positions) concede that medical information has become an integral part of juristic perception and of the whole legal reasoning process. However, systematic and organised consultation with biomedical scientists had hardly been part of the traditional ethico-legal deliberations of Muslim jurists. As will be outlined in the following section, introducing the mechanism of collective legal reasoning (*ijtihād jamāʿī*) in the field of Islamic bioethical discussions from the second half of the 20th century onwards enabled a significant shift in the role of biomedical scientists in this field.

The Birth of Collective *ijtihād*

The optimal way to address the religio-ethical questions raised by the overwhelming tide of modern biomedical advancement, it was argued, is to practice independent legal reasoning (*ijtihād*) collectively and no longer on an individual basis. This has been almost a point of consensus among contemporary Muslim religious scholars. The prominent Syrian jurist Shaykh Muṣṭafā al-Zarqā (d. 1999), for instance, argued that individual *ijtihād* was at one time a necessity (*ḍarūra*), but has now become a potential source of damage or harm

20 On him, see Al-Zubayr Mihdād, "al-Ḥajwī: Rāʿid min ruwwād al-iṣlāḥ al-tarbawī fī l-Maghrib", *al-Majalla al-ʿarabiyya li-l-tarbiya* 22–2 (2002), pp. 193–212.

21 Susan Gilson Miller, "Sleeping Fetus", pp. 422f.

(*ḍarar*) and thus should be replaced with collective *ijtihād*.[22] In his *al-Ijtihād fī l-sharīʿa al-islāmiyya* (Independent Legal Reasoning in Islamic Sharia), Shaykh Yūsuf al-Qaraḍāwī stressed that *ijtihād* has become one of today's necessities because of the "technological revolution" that has changed the nature of many aspects of people's lives. Qaraḍāwī added that this *ijtihād* should be collective in nature, assuming the form of a scholarly assembly. According to him, this type of *ijtihād* should focus on two main domains in particular, namely finance and medicine.[23]

As far as the field of biomedical ethics is concerned, the need for collective *ijtihād* was not only advocated by Muslim religious scholars but also by a number of Muslim biomedical scientists. Shaykh al-Qaraḍāwī spoke about "a lot of questions", touching upon about seventeen bioethical issues, which he had received from the Islamic Medical Association of South Africa (IMASA) and from the Islamic Medicine department at King Abdulaziz University in Jeddah, Saudi Arabia.[24] The Saudi gynaecologist ʿAbdallāh Bāsalāma also expressed the dire need of Muslim physicians to know more about the Islamic standpoints towards many of bioethical issues they grapple with.[25]

Collective *ijtihād* in the field of biomedical ethics assumed a clear institutionalised form during the 1980s through the establishment of Islamic transnational institutions within which collaboration between Muslim religious scholars and biomedical scientists would happen on a regular and systematic basis. The Islamic Organization for Medical Sciences (IOMS), based in Kuwait and established officially in 1984, has been the most active in this field and their symposia were exclusively occupied with studying bioethical issues. IOMS coordinates with two other institutions which pay occasional but not exclusive attention to bioethics. One is the Islamic Fiqh Academy (IFA), established in 1977, which is affiliated with the Muslim World League and based in

22 Māhir al-Ḥawlī, "Tanẓīm al-ijtihād al-jamāʿī fī l-ʿālam al-islāmī", *Majallat al-Jāmiʿa al-Islāmiyya* 17/2 (2009), p. 18. The author quotes more similar statements attributed to contemporary Muslim scholars.

23 Yūsuf al-Qaraḍāwī, *al-Ijtihād fī l-sharīʿa al-islāmiyya* (Kuwait 1996), pp. 96, 102–108. This paper focuses on Sunni Islamic discourse but it should be noted that many of the collective bodies discussed in this study invited Shīʿī scholars to participate. Also similar debates have been held by Shīʿī scholars. See e.g. Ann Lambton, "A Reconsideration of the Position of the *Marjaʿ al-Taqlīd* and the Religious Institution", *Stud. Isl.* 20 (1964), 115–35; Talib Aziz, "Baqir al-Sadr's Quest for the *Marjaʿiya*" in Linda Walbridge (ed.), *The Most Learned of the Shiʿa: The Institution of the Marjaʿ Taqlid* (Oxford 2001).

24 Ibid., p. 105.

25 Khālid al-Madhkūr et al. (eds.), *al-Ruʾya al-islāmiyya li-baʿḍ al-mumārasāt al-ṭibbiyya* (Kuwait 1995), p. 223. See also Padela in this volume for similar comments.

Mecca, Saudi Arabia. The other is the International Islamic Fiqh Academy (IIFA), established in 1981, based in Jeddah, Saudi Arabia, and affiliated with the Organization of Islamic Cooperation.[26] In addition to the resulting papers, the published proceedings of the collective meetings held by the IOMS and IIFA also include the script of the oral discussions among the participants. It is to be noted in this regard that institutionalising collective *ijtihād* did not put an end to individual *ijtihād.* Both forms of *ijtihād* continue to exist and function parallel to each other, as clearly shown by a number of individual scholars who regularly participate in the aforementioned collective institutions but still write their own individual books.[27]

In order to clarify how the mechanism of collective *ijtihād* can affect the juristic perception of Muslim religious scholars, let us revisit the example of extremely prolonged pregnancy. In 1983, the IOMS initiated the series *al-Islām wa-l-mushkilāt al-ṭibbiyya al-muʿāṣira* (Islam and Contemporary Medical Issues). IOMS solicited both Muslim religious scholars and biomedical scientists to write and debate on contemporary bioethical questions. When the late Jordanian religious scholar ʿUmar Sulaymān al-Ashqar (d. 2012) was invited to participate in the third seminar of this series, he chose to address the religio-ethical conundrums of extremely prolonged pregnancies which, he said, have perplexed jurists and muftis.[28] In his paper, al-Ashqar gave an overview of the various opinions expressed in the pre-modern Islamic legal sources which held that pregnancy can continue for up to seven years or even more. Strikingly enough he did not give any comment on these opinions, but restricted himself to the juristic argumentation relevant to this issue without any reference to relevant biomedical information.[29] During this symposium, al-Ashqar came into direct contact with a number of Muslim biomedical scientists who updated him, together with the other participating religious scholars, with relevant biomedical knowledge. The obstetrician and gynaecologist Nabīha al-Jayyār presented a paper bearing exactly the same title as al-Ashqar's paper but addressing the topic from a biomedical perspective. Al-Jayyār gave statistics about the average lengths of pregnancies and stated that pregnancies

26 Mohammed Ghaly, "Human Cloning Through the Eyes of Muslim Scholars: The New Phenomenon of the Islamic International Religio-scientific Institutions", *Zygon: Journal of Religion and Science* 45/1 (2010), p. 2.

27 See for instance, Muḥammad Naʿīm Yāsīn, *Abḥāth fiqhiyya fī qaḍāya ṭibbiyya muʿāṣira* (Amman 2008); ʿAlī al-Qaradāghī, *Fiqh al-qaḍāya al-ṭibbiyya al-muʿāṣira* (Beirut 2008).

28 ʿUmar al-Ashqar, "al-Ḥayḍ wa-l-nifās wa-l-ḥaml bayna l-fiqh wa-l-ṭibb" in ʿUmar al-Ashqar et al. (eds.), *Dirāsāt fiqhiyya fī qaḍāyā ṭibbiyya muʿāṣira* (Amman 2001), vol. 1, pp. 114f.

29 ʿUmar al-Ashqar, "Aqall muddat al-ḥayḍ wa-l-nifās wa-l-ḥaml wa-aktharuhā" in Khālid al-Madhkūr et al. (eds.), *al-Ruʾya al-islāmiyya*, pp. 537–61.

which continue for more than forty-two weeks (about ten months) will hardly result in delivering a viable child.[30] Other physicians like Ḥassān Ḥatḥūt (d. 2009) and Najm ʿAbd al-Wāḥid upheld al-Jayyār's conclusions and stressed that a multi-year pregnancy is simply impossible from a biomedical perspective.[31]

Information provided by these biomedical scientists contributed to reshaping al-Ashqar's juristic perception. This shift can be clearly noticed in the revised version of his paper which he included in a two-volume book that he co-edited and published about two decades later. To start with, al-Ashqar changed the title of the paper. The title of the old version read *Aqall muddat al-ḥayḍ wa-l-nifās wa-l-ḥaml wa-aktharuhā* (The Minimum and Maximum Length of Menstruation, the Postpartum Period, and Pregnancy). However, the title of the revised version became *al-Ḥayḍ wa-l-nifās wa-l-ḥaml bayna l-fiqh wa-l-ṭibb* (Menstruation, the Postpartum Period, and Pregnancy between [Islamic] Jurisprudence and Medicine). Instead of quoting only pre-modern juristic authorities as he did in the first version of his paper, al-Ashqar enriched the revised version with relevant biomedical information, including al-Jayyār's paper. This biomedical information formed a distinct section entitled *muddat al-ḥaml ʿinda al-aṭibbāʾ* (The length of pregnancy according to physicians).[32] Al-Ashqar even expressed his astonishment that many contemporary jurists still consult "the knowledge of the ancients" (*ʿilm al-awāʾil*) in this issue and remain removed from up-to-date scientific data although biomedical scientists have already reached conclusive or preponderant results in this field.[33] Al-Ashqar concluded the revised version of his paper by stressing that those who claim that pregnancy can continue for years are clearly mistaken.[34] It is to be noted here that the biomedical scientists and the information they presented did not only affect the juristic perception of al-Ashqar. The other participating religious scholars were also impressed by the "new" biomedical information that they came across during the seminar. The late Muḥammad Sayyid Ṭanṭāwī, the state Mufti of Egypt between 1986 and 1996 and then the Grand Imam of al-Azhar until his death in 2010, commented on the biomedical information given by Ḥatḥūt. According to Ṭanṭāwī, being brought into contact with such refreshing and seminal information is one of the blessings of such meetings, which bring jurists and physicians together.[35]

30 Nabīha al-Jayyār, "Aqall muddat al-ḥayḍ wa-l-nifās wa-l-ḥaml wa-aktharuhā" in Khālid al-Madhkūr et al. (eds.), *al-Ruʾya al-islāmiyya*, pp. 432–9.

31 Khālid al-Madhkūr et al. (eds.), *al-Ruʾya al-islāmiyya*, pp. 682, 689.

32 ʿUmar al-Ashqar, "al-Ḥayḍ wa-l-nifās wa-l-ḥaml bayna l-fiqh wa-l-ṭibb", pp. 174ff.

33 Ibid., pp. 114f.

34 Ibid., p. 176.

35 Khālid al-Madhkūr et al. (eds.), *al-Ruʾya al-islāmiyya*, p. 683.

The final recommendation of the IOMS symposium, adopted by the participating biomedical scientists and Muslim religious scholars, shows that biomedical information played the decisive factor in the process of collective *ijtihād* on this issue. The gist of the recommendation, that the maximum possible length of pregnancy is three hundred and thirty days, was almost exclusively justified in biomedical terms. "Physicians determined", so starts the text of the recommendation, that the continuation of pregnancy since fertilisation is dependent on the nutrients given to the unborn through the placenta. The placenta can continue feeding the foetus, the text adds, for a maximum period of forty-two weeks, after which the foetus will start starving and the risk of death increases over time. Just to accommodate the possibility of rare and abnormal cases, the text concludes, the maximum possible length of pregnancy can be extended for some more weeks up to forty-seven weeks or three hundred and thirty days in total. After reaching this conclusion, one sentence was added between brackets referring to the maximum length of pregnancy recognised by some legal codes in Muslim countries, namely one year.[36] Choosing one year instead of three hundred and thirty days, the IOMS text argues, has to do with leaning towards excessive scrupulosity (*tawassuʿ fī l-iḥtiyāṭ*) and also the eagerness to accommodate at least some of the Islamic juristic position besides the scientific dictums.[37] Thus, the text implies that the maximum possible length of pregnancy should actually be determined by the scientific evidence and not by the pre-modern juristic opinions.

Having established a general notion of the influence of biomedical scientists over the process of collective *ijtihād*, in the following section we will focus in more detail on their identity and the multiple roles they play in the process of collective *ijtihād*. Such is the scope of the latter, as we will see, that one might even describe them as acting as "co-muftis".

Familiarity with Both the Western Academy and the Islamic Tradition

The contribution of Muslim biomedical scientists has been an integral part of all the bioethical deliberations organised by these transnational Islamic institutions, IFA, IIFA, and IOMS. Some of these biomedical scientists have partici-

36 For more information about the relevant codes of family laws on this issue in Muslim countries, see Muḥammad S. al-Nūr, "Muddat al-ḥaml bayna l-fiqh wa-l-ṭibb wa baʿḍ qawānīn al-aḥwāl al-shakhṣiyya al-muʿāṣira", *Majallat al-sharīʿa wa-l-dirāsāt al-islāmiyya* 70 (2007), pp. 309–13; N.J. Coulson, *A History of Islamic Law* (Edinburgh 1978), pp. 174–8.

37 Khālid al-Madhkūr et al. (eds.), *al-Ruʾya al-islāmiyya*, p. 759.

pated on a regular and frequent basis, like the Saudi Muḥammad ʿAlī al-Bār, known in these institutions as "the physician of the jurists and the jurist of the physicians" (*ṭabīb al-fuqahāʾ wa-faqīh al-aṭibbāʾ*), in reference to the bridging role he plays between biomedical scientists and Muslim religious scholars. Others appear only occasionally and sometimes just once or twice, such as the Saudi professor of experimental embryology Ṣāliḥ ʿAbd al-ʿAzīz al-Kurayyim, who participated in the IIFA meeting on cloning held in 1997.[38] As for the identity of these biomedical specialists, these three transnational Islamic institutions do not clearly outline the main criteria for selecting such experts for invitation. However, by examining the pool of those biomedical scientists who have regularly participated in the meetings of these institutions, one can identify two main characteristics common to the majority of them.

Familiarity with the "West" is one of the most obvious common qualities. The term "West" in this context is not only determined through geographical borders (Western Europe and the USA) but also, more importantly, along scientific and academic lines. A general conviction prevails that, to use the words of al-Qaraḍāwī, the modern "technological revolution" was born and raised within European and Western academies. Thus, the correct perception of the nature of these biomedical advancements and their ethical implications can only be obtained by consulting the work produced by these academies. One hardly comes across any biomedical scientist affiliated with the aforementioned institutions who does not have a post-graduate degree from a European or American university. Let us mention just a few examples of regular such participants.[39] The Egyptian gynaecologist Ḥassān Ḥaṭḥūt did his postgraduate studies at the English Royal College of Surgeons and received a Ph.D. degree from the University of Edinburgh. The Yemeni-born and Saudi internist Muḥammad ʿAlī al-Bār gained his postgraduate medical diploma MRCP (Membership of the Royal Colleges of Physicians) in 1971 and the FRCP (Fellowship of the Royal College of Physicians) in 1994, both also from the United Kingdom. The Egyptian-born American paediatric geneticist ʿUmar al-Alfī joined American academic life as early as 1954, when he was named a Fulbright Fellow with the Naval American Research Unit. The Egyptian cardiologist Aḥmad Shawqī Ibrāhīm obtained his MSc (Master of Science) degree in tropical and infectious diseases from the University of Liverpool (UK). The Saudi gynaecologist

38 Ṣāliḥ al-Kurayyim, "al-Istinsākh: Taqniyya, fawāʾid wa-makhāṭir", *Majallat Majmaʿ al-Fiqh al-Islāmī* 10/3 (1997), pp. 271–311.

39 My biographical information regarding these biomedical scientists has been gained through personal contact with some of them, such as Muḥammad ʿAlī al-Bār, ʿAbd al-Raḥmān al-ʿAwaḍī and Aḥmad al-Jundī.

ʿAbdallāh Bāsalāma won his Ph.D. degree from Germany in 1966 and an ACS (Honorary Fellowship in the American College of Surgeons) in 1974. The Kuwaiti geneticist Ṣadīqa al-ʿAwaḍī received her MD degree from the University of Dublin and a FRCP (Fellowship of the Royal College of Physicians) from Edinburgh University.

This familiarity with and recognition from Western scientific academies give these biomedical scientists a certain credibility in the eyes of Muslim religious scholars, who believe that trustworthy and evidence-based science is to be found in these Western academies rather than in the Muslim world. When they are faced with conflicting biomedical opinions or statistics, Muslim religious scholars usually ask about results verified by laboratories in the USA and Europe in the first instance.[40] And it seems that biomedical research conducted in Western academies also plays the same role when the biomedical scientists disagree with each other. Each one tries to show that biomedical research produced by Western academies stands on his or her side. For instance, the gynaecologist Ḥassān Ḥaṭḥūt, during the IOMS seminar on determining the beginning and end of human life held in 1985, argued that any bid to claim a link between the religious concept of ensoulment ("breathing in the soul", *nafkh al-rūḥ*) and specific neurobehavioral developments in the foetus is folktale rather than scientifically grounded discourse. In order to argue against Ḥaṭḥūt's position, the neurologist Mukhtār al-Mahdī stressed that determining the beginning of human life on the basis of specific neurological developments during pregnancy is a new scientific point of view (*raʾy ʿilmī jadīd*). To demonstrate that his position was not "folktale", al-Mahdī appended to his paper a bibliographical list of twenty-one sources, including papers published in reputable journals such as *The Lancet, British Journal of Obstetrics and Gynaecology*, *Obstetrics & Gynecology*, *American Journal of Roentgenology*, *Clinical Obstetrics and Gynecology*, *Neurology* and the *British Medical Journal.* [41] To my mind, al-Mahdī did not parade this list for the benefit of his colleague Ḥassān Ḥaṭḥūt in the first instance, but rather for the participating religious scholars, even though most of them would have no access to the content of these papers, for linguistic reasons if nothing else. Al-Mahdī wanted to manifest his familiarity

40 See for instance the comments of the Kuwaiti religious scholar ʿAbdallāh Muḥammad ʿAbdallāh during the IOMS seminar on AIDS: ʿAbd al-Raḥmān al-ʿAwaḍī and Aḥmad Rajāʾī al-Jundī, *Ruʾya islāmiyya li-l-mashākil al-ijtimāʿiyya li-maraḍ al-īdz* (Kuwait 1993), pp. 102f.

41 Khālid al-Madhkūr et al. (eds.), *al-Ḥayāt al-insāniyya: Bidāyatuhā wa-nihāyatuhā fī l-mafhūm al-islāmī* (Kuwait 1985), p. 210; Ḥassān Ḥaṭḥūt, "Bidāyat al-ḥayāt" in *al-Ḥayāt al-insāniyya*, pp. 55–61; Mukhtār al-Mahdī, "Bidāyat al-ḥayāt al-insāniyya" in *al-Ḥayāt al-insāniyya*, pp. 62–73; Mohammed Ghaly, "The Beginning of Human Life: Islamic Bioethical Perspectives", *Zygon: Journal of Religion and Science* 47/1 (2012), pp. 175–213.

with the biomedical sources produced by Western academies in a bid to win Muslim religious scholars' hearts and minds.

We should also note that "familiarity with the West", for a number of these biomedical scientists, is not a matter of Western academic circles alone. Some of them, like Ḥassān Ḥaṯḥūt and ʿUmar al-Alfī, have lived in the USA for decades and are sometimes eager to communicate their wider observations on Western societies pertinent to bioethical issues. During the IOMS meeting on AIDS held in 1993, Ḥaṯḥūt spoke about the hype in America around the famous basketball player Magic Johnson, who had contracted HIV, and also about the interfaith activities on AIDS organised by the Islamic Center of Southern California in collaboration with the Catholic Church and the Jewish community there.[42]

Familiarity with the Islamic tradition is the other characteristic common to the majority of biomedical scientists who regularly participate in these collective bioethical deliberations. Besides all being Muslims, all these biomedical experts are also clearly aware of at least the rudiments of Islam as practiced religion and they bear this information in mind when writing their papers to be read during the meetings of these institutions. For instance, during the IOMS and IIFA meetings on cloning and AIDS it was clear that all the biomedical specialists were aware of the fact that having sex outside marriage is strictly forbidden in Islam. However, some of them seem to know much more than the rudiments. During the IOMS meeting on AIDS, the Syrian physician Haytham al-Khayyāṭ spoke about those who "have a share of knowledge in medicine and also a share of knowledge in Islamic jurisprudence" (*naṣīb min al-ṭibb wa-naṣīb min al-fiqh*).[43] Al-Khayyāṭ himself would fall into this category of physicians who are well-versed in the Islamic tradition in general. He studied Sharia along traditional lines under Muslim religious scholars in Syria. Al-Khayyāṭ is also a member of the academies of Arabic language in Damascus, Baghdad, Amman, and Cairo. He is the key figure behind the educational series *The Right Path to Health: Health Education through Religion* published by the Regional Office for the Eastern Mediterranean (EMRO), affiliated with the World Health Organization (WHO). The same holds true for other physicians like Ḥassān Ḥaṯḥūt and Muḥammad ʿAlī al-Bār, mentioned earlier.

"Familiarity with the Islamic tradition" is also not restricted to knowledge alone, but may also involve a sympathetic stance. Some of the biomedical scientists are even known for their enthusiasm to render specific services to Islam. Ḥaṯḥūt left Egypt and Kuwait for America as a missionary for Islam there.

42 ʿAbd al-Raḥmān al-ʿAwaḍī and Aḥmad Rajāʾī al-Jundī, *Ruʾya islāmiyya*, p. 89.

43 Ibid., p. 45.

Al-Alfī, together with his wife Azmeralda, founded the New Horizon School, an independent Islamic school in the USA, in 1984. They also established the Omar and Azmeralda Alfi endowed chair in Islamic law at the University of California, Los Angeles (UCLA), School of Law, which is now occupied by Professor Khālid Abū l-Faḍl. Further, the contributions made by the biomedical scientists in these collective meetings are rendered free of charge. They participate in these gatherings, I was told by al-Bār in a personal interview held in 2009, out of their feeling of responsibility toward their religion.[44] This sympathy with Islam contributes to creating a positive image for these biomedical scientists among Muslim religious scholars.

Biomedical Scientists' Multiple Roles

The particular characteristics of these biomedical experts made their involvement in the entire process of collective *ijtihād* an almost natural matter. Familiarity with the West made them indispensable for the informative element of *ijtihād*, namely developing the correct perception (*taṣawwur ṣaḥīḥ*) of the question or issue at hand. Familiarity with the Islamic tradition made them eligible to participate also in the normative element of *ijtihād*, developing an Islamic normative religio-ethical perspective on specific bioethical issues. Due to their involvement in both these elements of the process of *ijtihād*, biomedical scientists managed to play multiple roles, the most salient of which I turn to now.

1 *Setting the Agenda*

The first role played by biomedical scientists in the context of collective *ijtihād* is that of setting the agenda. Which topics need to be discussed first, which ethical questions these topics raise and how challenging these questions are from an Islamic perspective are all decisive points that have usually been determined by biomedical scientists. The president of the IOMS, ʿAbd al-Raḥmān al-ʿAwaḍī, and the secretary general assistant, Aḥmad al-Jundī, are both biomedical specialists. Al-Jundī is a pharmacologist and al-ʿAwaḍī obtained his MD degree from the University of Aberdeen and his MPH (Master of Public Health) from the Harvard School of Public Health. He also served in the Kuwaiti cabinet as Minster of Public Health, Minister of Planning and also Minister of State for Cabinet Affairs. As for the IIFA and IFA, Dr al-Bār told me in a personal interview held in 2012 that he and his colleague the Syrian

44 Mohammed Ghaly, "Human Cloning Through the Eyes of Muslim Scholars", pp. 13f.

cardiologist Ḥassān Shamsī Bāshā are frequently approached by these institutions for the sake of determining their agenda in the field of bioethics. Also, in more than one case, specific issues were proposed by biomedical scientists and became part of the collective bioethical deliberations, even though Muslim religious scholars were unwilling, or at least reluctant, to discuss these issues. The ethical questions related to establishing human milk banks in the Muslim world were raised by a number of physicians led by Ḥassān Ḥatḥūt and his brother the cardiologist Māhir Ḥatḥūt.[45] In a personal interview with Aḥmad al-Jundī held in 2010, he told me that Shaykh Yūsuf al-Qaraḍāwī was at first unwilling to address this issue, until Ḥassān Ḥatḥūt convinced him of its necessity, given that human milk banks can be a life-saving solution for some children. When Qaraḍāwī wrote his paper about this topic and submitted it to the IIFA session held in 1985, some religious scholars objected to its being put on the agenda, holding that it was irrelevant to the Arab and Muslim world.[46]

Human cloning is another telling example in this regard. When the cloning of Dolly the sheep was announced in 1997, biomedical scientists wanted to put human cloning on the agenda of the collective bioethical deliberations of the IOMS and IIFA. Some of the biomedical scientists, especially Ḥassān Ḥatḥūt, already anticipated objections from the religious scholars. Hypothesising non-existent problems and then trying to forge Islamic perspectives on them has been seen as a notorious and abhorrent practice by many scholars.[47] According to them, this practice wastes precious time that should be used to discuss already existing problems. Ḥatḥūt wrote a paper in a bid to convince religious scholars of the relevance and significance of discussing the ethical aspects of human cloning, even if the technology had not yet been realised.[48] Also, some physicians like Haytham al-Khayyāṭ and the then head of the Egyptian Medical

45 *Majallat Majmaʿ al-Fiqh al-Islāmī* 2/1 (1986), p. 407; Māhir Ḥatḥūt, "Bunūk al-ḥalīb al-Basharī al-mukhtalaṭ" in ʿAbd al-Raḥmān al-ʿAwaḍī and Aḥmad al-Jundī (eds.), *Nadwat al-injāb fī ḍawʾ al-islām* (Kuwait 1983), pp. 35f.

46 When Muslims thought of establishing milk banks, religious reservations were raised. These reservations were based on the concept that women's milk (breastfeeding) creates 'milk kinship'. This type of kinship falls under the category of permanent grounds which bar marriage in Islam. The core ethical question was whether feeding children from milk banks would be equal to the traditional practice of breastfeeding, from an Islamic juristic perspective. For more information, see Mohammed Ghaly, "Milk Banks through the Lens of Muslim Scholars: One Text in Two Contexts", *Bioethics* 26/2 (2012), pp. 111–27.

47 Musfir al-Qaḥṭānī, *Manhaj istikhrāj al-aḥkām al-fiqhiyya*, vol. 1, p. 335; Muḥammad Imām, "al-Mawqif min al-fiqh al-iftirāḍī; ruʾya uṣūliyya", *al-Muslim al-muʿāṣir* 37/145–146 (2012), pp. 141–57.

48 See Mohammed Ghaly, "Human Cloning", pp. 15f.

Syndicate Ḥamdī al-Sayyid commended the IOMS for discussing the ethical aspects of medical advancements that had yet to be realised. Al-Khayyāṭ justified this attitude by arguing that many of what people perceive now as imaginary dreams would soon be part of reality.[49]

2 *Presenting Biomedical Information*

Another role played by biomedical scientists is providing biomedical information needed for the development of the correct perception (*taṣawwur ṣaḥīḥ*) of the issue at hand, as discussed above. According to Shaykh Yūsuf al-Qarḍāwī, contemporary Muslim religious scholars are in need of biomedical scientists because they are not as encyclopaedic and erudite as their predecessors like Averroes (Ibn Rushd, d. 1198), who wrote the juristic compendium *Bidāyat al-mujtahid* and also the medical encyclopaedia *al-Kulliyyāt*.[50] During the IOMS seminar on genetics held in 1998, the Egyptian professor in the Faculty of Sharia at al-Azhar University, Muḥammad Raʾfat ʿUthmān, stated that the works of the Saudi physician Muḥammad al-Bār are like the guidebook for Sharia scholars in the field of biomedical ethics.[51] Some of the information provided by biomedical scientists is indispensable, without which Muslim religious scholars would not be able to develop any perception at all, whether right or wrong, of specific bioethical questions. Without sufficient information about what cloning exactly is, which (prospective) techniques are used to clone animals, plants or possibly humans in the future and which risks or benefits ensue from these techniques, religious scholars cannot even embark upon drafting the broad lines of an Islamic perspective towards cloning as a bioethical issue. The same holds true for a wide array of similar issues like genetic engineering, gene therapy, the human genome and stem cell research. Other pieces of information provided by biomedical scientists are more corrective in nature. In other words, without the help of biomedical scientists, Muslim religious scholars would develop flawed or incorrect perceptions, which would naturally lead to incorrect conclusions or erroneous fatwas. The role of biomedical scientists in this respect is to restore the correct perception and re-orientate the resulting fatwa accordingly. To explain this corrective role, two examples will serve, taken from the IOMS seminar on organ transplantation held in October 1989.

49 ʿAbd al-Raḥmān al-ʿAwaḍī and Aḥmad al-Jundī (eds.), *al-Wirātha wa-l-handasa al-wirāthiyya wa-l-jīnūm al-basharī wa-l-ʿilāj al-jīnī: ruʾya islāmiyya* (Kuwait 2000), pp. 1030–3.

50 ʿAbd al-Raḥmān al-ʿAwaḍī and Aḥmad al-Jundī (eds.), *Ruʾya islāmiyya li-zirāʿat baʿḍ al-aʿḍāʾ al-bashariyya* (Kuwait 1989), p. 99.

51 ʿAbd al-Raḥmān al-ʿAwaḍī and Aḥmad al-Jundī (eds.), *al-Wirātha*, p. 984.

The late Saudi Shaykh Bakr Abū Zayd, who was the then head of the IIFA, wrote a paper on the Islamic standpoint towards procuring organs from living anencephalic newborns. The Arabic term most widely used for anencephalic newborn is *al-mawlūd ʿadīm al-dimāgh*, which translates literally as "born without brain". Given this literal understanding, Abū Zayd found the very question as to whether it is ethical to procure organs from such living newborns a conclusive indicator that brain death is not "real death", because the question itself speaks in terms of a *living* newborn. Physicians stress that, Abū Zayd explains, an anencephalic newborn (in his understanding a headless child) can live for hours, days or even weeks after birth. If this is the case for someone without a head, Abū Bakr wonders, what about the person whose brain stem alone died while the remaining parts of the head and all other organs still function?![52] In response to Abū Zayd's misconception, the Saudi physician Muḥammad ʿAlī al-Bār explained that many Muslim jurists and not only Abū Zayd confuse the two Arabic words *dimāgh* and *mukhkh* and stressed that the *Unified Medical Dictionary* should be used as a reference. According to al-Bār, the English equivalent for *dimāgh* is brain, also sometimes called encephalon, which includes the cerebrum, cerebral hemisphere and diencephalon. On the other hand, the word *mukhkh*, whose English equivalent is cerebrum, consists of two lobes, the two cerebral hemispheres. The Egyptian neurologist Mukhtār al-Mahdī added that it is possible to have the two cerebral hemispheres damaged but the brain stem still functioning. In this case, the person will lose, among other things, the senses and the ability to make voluntary movements due to the dysfunction of the two cerebral hemispheres. However, in this case this person will not be dead, because the still functioning brain stem will facilitate breathing. In the case of anencephalic newborns, al-Mahdī explained, what are missing are the two cerebral hemispheres but not the brain stem and that is why they are considered living newborns. The Egyptian anaesthetist ʿAbd al-Munʿim ʿUbayd also found Abū Zayd's paper confusing and argued that one should distinguish between three possible types of death, namely brain stem death, brain death, and the case of the anencephalic foetuses. A clear distinction between these types and a decision on which one of them will be recognised as real death is necessary for ethical deliberations on organ transplantation.[53] This example shows that Abū Zayd's conclusion was flawed not because of his line of argumentation or because of a misinterpretation of

52 Bakr Abū Zayd, "Ḥukm al-intizāʿ li-ʿuḍw min mawlūd ḥayy ʿadīm al-dimāgh" in ʿAbd al-Raḥmān al-ʿAwaḍī and Aḥmad al-Jundī (eds.), *Ruʾya islāmiyya li-zirāʿat baʿḍ al-aʿḍāʾ al-basharìyya*, pp. 101–4.

53 Ibid., pp. 77ff., 84f.

specific passages in the Quran or Sunna but because of his misconceived perception of the medical facts, which was corrected by al-Bār and al-Mahdī. Unfortunately, Abū Zayd did not manage to participate in the deliberations of this seminar and so we do not know his reaction to these corrections. Our second example from this seminar, however, does include the reaction of the religious scholar concerned, Muḥammad al-Ashqar.

The Jordanian religious scholar Muḥammad al-Ashqar submitted a paper on the transplantation of sexual organs to the same IOMS seminar. A typical objection to transplanting testicles in particular is that it will lead to the mixing of lineages (*ikhtilāṭ al-ansāb*), something which is categorically forbidden in Islam. This is because the sperm resulting from the transplanted testicles would carry the genetic characteristics of the donor and not those of the recipient. This means that the woman who is married to the recipient of the testicles will actually be impregnated by the sperm of the testicles' donor and not by her own husband. In response to this possible objection, al-Ashqar argued that the central question to be addressed in this respect is whether the transplanted organs belong to the donor or to the recipient. The answer given by al-Ashqar is that the transplanted organs, whether testicles or any other organ, belong exclusively to the recipient. In order to give his position a scientific veneer, al-Ashqar explained that the transplanted organ is physically attached to the recipient and follows the orders issued by the recipient's brain. That is why it is the recipient and not the donor who feels pain if something goes wrong with the transplanted organ. Also the transplanted testicles can sometimes be procured from a dead person. How, al-Ashqar wondered, could one claim that the woman was impregnated by the donor of the testicles when he was already dead?! Based on this line of argumentation, al-Ashqar held that the transplanted organs are the recipient's and their relation with the donor has come to a definite end. The sperm produced by the transplanted testicles originate in the recipient's body and not anywhere else. This means that the resulting children must be attributed to the man who received the testicles and not to the one who donated them. Thus, al-Ashqar concluded, transplanting testicles is permitted because the recipient of the testicles is the genetic and legal father from the Islamic point of view.[54]

As in the previously discussed case of Abū Zayd, the main problem with al-Ashqar's conclusion is its basis in a misconception. In order to correct al-Ashqar's faulty perception, about ten biomedical scientists engaged in de-

54 Muḥammad al-Ashqar, "Naql wa-zirāʿat al-aʿḍāʾ al-tanāsuliyya" in ʿAbd al-Raḥmān al-ʿAwaḍī and Aḥmad al-Jundī (eds.), *Ruʾya islāmiyya li-zirāʿat baʿḍ al-aʿḍāʾ al-bashariyya*, pp. 539–57.

tailed and lengthy discussion with him during the IOMS seminar. They explained to him that the origin of the testicles, the sperm-producing organ, and the spermatogenic cells goes back to the fourth or sixth week of the gestational development of the foetus. By this early time, the formation of these cells has come to an end and what happens subsequently is a just a process of maturation and development. This means that the transplanted testicles will continue producing the donor's sperm that have been stored in those testicles since the fourth or sixth week of gestational development. Al-Ashqar directed the following question to the biomedical scientists: Is it possible then to empty the testicles of sperm before transplanting them? In response, they explained that, even if this was performed, nothing would in fact change, because the sperm produced after transplantation would be produced by the donor's spermatogenic cells, which had resided in the testicles since the fourth or sixth week of gestation. At any rate, the biomedical scientists stressed, the sperm produced by the transplanted testicles would always remain the donor's and would never be the recipient's. It is to be noted in this regard that the biomedical scientists were keen to explain every piece of this information in clear and simple terms to al-Ashqar and the other religious scholars. The same item was sometimes presented several times in various formulations and different wordings. After explaining every point, they asked al-Ashqar, "Is it clear now?", "Did you get the point?" They would not move on to the next point before getting an affirmative answer from him.[55] In this way, the biomedical scientists managed to convince all the participating religious scholars, including al-Ashqar himself, that what they presented was the correct perception and accurate understanding of testicle transplantation. The former Tunisian Mufti Mukhtār al-Sallāmī said that al-Ashqar's whole paper and especially his conclusion (that testicle transplantation is permissible) were based on an erroneous perception which was contrary to what the physicians had explained. Al-Sallāmī thus proposed that al-Ashqar should change his opinion or else the whole paper should be excluded from the prospective published proceedings.[56] Al-Ashqar appended a postscript to his original paper in which he retracted and revoked his opinion permitting the transplantation of testicles. Al-Ashqar clarified that, thanks to information provided by physicians, he was now convinced that transplanting testicles for the sake of procreation is not permissible, because the resulting child will not be produced by the recipient's sperm.[57] The same conclusion was

55 ʿAbd al-Raḥmān al-ʿAwaḍī and Aḥmad al-Jundī (eds.), *Ruʾya islāmiyya li-zirāʿat baʿḍ al-aʿḍāʾ al-bashariyya*, pp. 479–98.

56 Ibid., pp. 604f.

57 Muḥammad al-Ashqar, "Naql wa-zirāʿat al-aʿḍāʾ al-tanāsuliyya", pp. 556f.

adopted collectively by the IOMS in this meeting and also later by the IIFA in its sixth session held in Jeddah during the period 14–20 March 1990.[58]

3 *Participating in Religio-ethical Normative Deliberations*

The third role played by biomedical scientists in the collective bioethical deliberations is the most controversial one. This role relates directly to the abovementioned normative element of *ijtihād* and the resulting religious ruling or fatwa, usually seen as the prerogative of Muslim religious scholars. Some religious scholars expressed strong reservations against involving biomedical scientists in this normative element of *ijtihād*. As an example, we can refer to Aḥmad al-Ḍuwayḥī, a professor specialising in the principles of Islamic jurisprudence (*uṣūl al-fiqh*) at the Faculty of Sharia of the Imam Muhammad Ibn Saud Islamic University in Saudi Arabia. According to al-Ḍuwayḥī, involving experts such as biomedical scientists in the informative element of *ijtihād*, that is, devising the correct perception or verifying the underlying reality of specific issues, is legitimate (*amr mashrūʿ*). However, al-Ḍuwayḥī strongly condemned the involvement of these experts in the normative element of *ijtihād* because they are not qualified for this task. He argued that issuing fatwas is the exclusive right of proficient and devout Muslim religious scholars. What is even worse, says al-Ḍuwayḥī, is that many Muslim lay people (*ʿawāmm*) prefer to consult medical experts rather than religious scholars in order to know the Islamic perspective on medical issues such as organ transplantation.[59]

Similar negative views were also expressed by other Muslim religious scholars during the collective bioethical deliberations. During the second IOMS seminar in the series *Islam and Contemporary Medical Issues*, held in 1985, such dissatisfaction on the part of Muslim religious scholars started to surface. During this seminar, the Yemeni religious scholar ʿAbd al-Qādir al-ʿAmmārī asked the biomedical scientists to stick to their specialisation. Physicians, al-ʿAmmārī held, should not occupy themselves with interpreting Quranic verses or commenting on Prophetic traditions because this is the exclusive specialisation of the religious scholars. What Muslim jurists need from the physicians, al-ʿAmmārī added, is biomedical information; their infringing upon the normative element of *ijtihād* would be confusing.[60]

58 ʿAbd al-Raḥmān al-ʿAwaḍī and Aḥmad al-Jundī (eds.), *Ruʾya islāmiyya li-zirāʿat baʿḍ al-aʿḍāʾ al-bashariyya*, pp. 649, 653.

59 Aḥmad al-Ḍuwayḥī, "Waẓīfat al-khabīr fī al-nawāzil al-fiqhiyya" in *Naḥwa manhaj ʿilmī aṣīl li-dirāsat al-qaḍāyā al-fiqhiyya al-muʿāṣira* (Riyadh 2010), pp. 450f.

60 Khālid al-Madhkūr et al. (eds.), *al-Ḥayāt al-insāniyya*, p. 221.

For their part, biomedical scientists were clearly not satisfied with playing the limited role of "informants" who just provide religious scholars with biomedical information. They wanted to be part of the full process of *ijtihād* including both its informative and normative aspects. In response to al-ʿAmmārī's criticism, the late Egyptian physician ʿIṣām al-Shribīnī said,

> We believe that neither the religious scholar nor the physician alone has the capacity to examine this issue comprehensively without bilateral discussions between the two groups. Furthermore, we are not only physicians but also Muslim physicians. A Muslim physician has the right to scrutinise the opinions and the [juristic] rulings, in order to understand the scriptural evidence as far as he can, and also to consult the religious scholar if he does not grasp the ruling.[61]

In a bid to reconcile the standpoints of the religious scholars and biomedical scientists, the Jordanian religious scholar Muḥammad Naʿīm Yāsīn proposed keeping all doors open for both groups during the deliberations regardless of the specialisation of each group. At the stage of drafting the final conclusions, however, the members of each group should stick to their own specialisation.[62] As we shall see below, even this middle path proposed by Yāsīn failed, because biomedical scientists did interfere even in the very process of drafting the final conclusions.

During the aforementioned IOMS seminar on determining the beginning and end of human life, almost none of the participating biomedical scientists stuck to the informative element of *ijtihād*. They also presented their own interpretations of relevant passages in the Quran and Sunna and also their critical remarks upon opinions expressed by pre-modern Muslim religious scholars. The Egyptian dermatologist Ibrāhīm al-Ṣayyād came up with his own unique suggestion for determining the beginning of human life through one of the Prophetic traditions. The tradition, al-Ṣayyād explained, revolves around an incident involving a cat, when the Prophet of Islam was asked by his Companions whether God would reward people for taking care of animals. In response, the Prophet said that taking care of every creature with a "moist liver" (*kabid raṭba*), and in another version of the tradition a "warm liver" (*kabid ḥarra*), will be rewarded by God. Al-Ṣayyād argued that the sign of being alive, as given by the Prophet, is having a moist and warm liver with a functioning

61 Ibid., p. 264.

62 Ibid., p. 264.

blood circulation system.[63] None of the participants further commented, either positively or negatively, on al-Ṣayyād's understanding of this tradition. Shaykh Yūsuf al-Qaraḍāwī only said that the tradition is authentic but the animal mentioned in the text is the dog and not the cat.[64]

The neurologist Mukhtār al-Mahdī submitted a paper to the same seminar with a final section dedicated to "the stage of the beginning of human life between science and religion". This was wholly dedicated to forging a unique Islamic religio-ethical perspective on this issue. Up-to-date biomedical data about foetal development, al-Mahdī argued, indicate that human life starts in the twelfth week of pregnancy, or more exactly after eighty-four days. He tried to reconcile this with the relevant passages in the Quran and Sunna. Al-Mahdī's focal text was arguably the most often quoted Prophetic tradition in the context of debates over determining the beginning of human life. This tradition is usually known as the tradition of Ibn Masʿūd, in reference to the Companion who transmitted it from the Prophet Muḥammad. It reads,

> The creation of one of you is assembled in his mother's belly in forty days, then he becomes a clot of congealed blood (*ʿalaqa*) for a similar period, then a little lump of flesh (*muḍgha*) for a similar period. Then Allah sends an angel who is ordered to write four items. He is ordered to write down his [i.e. the new creature's] deeds, his livelihood, his date of death, and whether he will be blessed or wretched. Then the soul is breathed into him.[65]

According to al-Mahdī, the three stages mentioned in the tradition of Ibn Masʿūd should not be taken as three distinct stages, each of which continues for forty days. He explained that the same tradition was reported in two canonical Ḥadīth collections, compiled respectively by al-Bukhārī and Muslim. The text recorded in the compendium of Muslim includes a phrase which does not appear in the collection of al-Bukhārī. Instead of "then he becomes a clot of congealed blood (*ʿalaqa*) for a similar period", as recorded by al-Bukhārī, the text of Muslim reads, "then he becomes in this a clot of congealed blood (*ʿalaqa*) for a similar period." "In this" here means that the stage of *ʿalaqa* starts during, and not after the end of, the first 40-day stage (named in other prophetic traditions the stage of *nuṭfa*), and that the same holds true for the stage of *muḍgha* which would also start during, and not after the end of, the *ʿalaqa*

63 Ibid., p. 295.

64 Ibid., p. 297.

65 Translation taken from Mohammed Ghaly, "The Beginning of Human Life", p. 210.

stage. Through this specific reading of the Prophetic tradition, one can speak of three overlapping rather than three distinct forty day periods and thus the total duration should not be considered as 120 days but a shorter period. Bearing in mind that the foetus witnesses a turning point in the twelfth week, then the total of the three overlapping forties should be calculated as eighty-four days, and this is the date of ensoulment, al-Mahdī concluded.[66]

Al-Mahdī's reading of the tradition of Ibn Masʿūd was so peculiar that none of the religious scholars participating in the IOMS seminar could recall any similar viewpoints expressed by Muslim jurists throughout the history of the Islamic tradition. However, none of them criticised al-Mahdī for coming up with such a conclusion. It is to be noted here that the dermatologist al-Ṣayyād and the neurologist al-Mahdī were exemplary, rather than exceptional, cases. The papers submitted to the same seminar by the cardiologist Aḥmad Shawqī Ibrāhīm and the two gynaecologists Ḥassān Ḥatḥūt and ʿAbdallāh Bāsalāma included not only biomedical information but also a clearly formulated Islamic religio-ethical standpoint based on their interpretation of relevant passages in the Quran and Sunna. Thus, the borders between biomedical knowledge and religio-ethical discourse on the one hand and the roles played by biomedical scientists and religious scholars on the other hand were highly blurred in these collective bioethical deliberations. Any attempt at a systematic typology of the positions adopted by the participants in this seminar would not succeed in separating between biomedical scientists and religious scholars as two distinct groups with two distinct standpoints.[67]

These blurred borders continued throughout the collective deliberations up to the stage of drafting the final recommendations of the seminar. The ten members of the drafting committee were equally divided between biomedical scientists and religious scholars (noteworthy in itself). During the session dedicated to discussing the draft prepared by the committee, some biomedical scientists, especially Ḥassān Ḥatḥūt and the late cardiologist Aḥmad al-Qāḍī (d. 2009), got into heated debates with the religious scholars. The chairman of this session, Shaykh Yūsuf al-Qaraḍāwī, addressed them, saying, "I kindly ask Ḥassān Ḥatḥūt and brother Dr al-Qāḍī not to pressure us [namely religious scholars] more than this. For three days now, they have been trying to force their opinion [upon us]. We have made some concessions, and now they have to make concessions too."[68] These instances quoted from one of the very first seminars which hosted both biomedical scientists and religious scholars clear-

66 Mukhtār al-Mahdī, "Bidāyat al-ḥayāt al-insāniyya", pp. 70f.

67 Mohammed Ghaly, "The Beginning of Human Life", pp. 180–95.

68 Khālid al-Madhkūr et al. (eds.), *al-Ḥayāt al-insāniyya*, p. 659.

ly show that biomedical scientists did engage seriously in the normative religio-ethical deliberations and in the formulation of fatwas despite the reservations expressed by some religious scholars. And research on the collective deliberations on other bioethical issues, such as AIDS, indicates that this normative role on the part of biomedical scientists continued.[69]

Concluding Remarks

When facing novel or intricate cases, Muslim religious scholars in the past used to approach experts in medicine, veterinary science, architecture and similar disciplines in order to grasp the various scientific and technical dimensions of such cases before issuing their fatwas. Consulting these experts in order to develop the correct perception (*taṣawwur ṣaḥīḥ*) of these issues has generally been seen as part of the so-called "informative" component of independent legal reasoning (*ijtihād*). In pre-modern times, the consultation of such experts was usually casuistic and occasional in nature. The spectacular increase in scientific knowledge and biomedical advances from the 20th century onwards caused a significant shift in this regard. The great number of ethical questions raised by these advancements and their intricate character demanded a well-orchestrated collaboration between biomedical scientists and Muslim religious scholars. This collaboration was standardised and systematised by a number of Islamic transnational institutions which adopted the mechanism of collective *ijtihād*.

The collective bioethical deliberations facilitated by these institutions have shown that biomedical scientists started to play a considerably extended and systematic role in contemporary Islamic religio-ethical discourse, as compared with their limited and occasional role in pre-modern times. Without their biomedical input, Muslim religious scholars cannot develop the correct perception of these modern, complex bioethical issues. Moreover, these biomedical scientists also became involved in the so-called "normative" component of *ijtihād* by interpreting passages of the Quran and Sunna and forging the requisite religious ruling (*ḥukm sharʿī*) according to their own understanding. These developments created new functions for a number of Muslim physicians besides their typical role of providing medical care for patients. This article highlighted one such non-medical function, which I have called that of "co-mufti". To my mind, "co-mufti" best describes the current reality of the role played by

69 See Mohammed Ghaly, "Collective Religio-scientific Discussions on Islam and HIV/AIDS: I. Biomedical scientists", *Zygon: Journal of Religion and Science* 48/3 (2013), pp. 698–702.

biomedical scientists in collective *ijtihād*. Subsequent studies will, I hope, elaborate further on this notion and its implications in the field of contemporary Islamic bioethics. Furthermore, given that the challenges facing today's Muslims religious scholars are not limited to those of bioethics, "co-muftis" may indeed be a wider phenomenon.[70]

70 Islamic finance might be another such area worth investigating, as discussed in the introduction to this special issue.