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Malevolent Spirits, Noxious Vapours, and the Will of God: Islamic Theology and the Explanation for Disease Transmission, from North Africa to Southeast Asia

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Abstract

This article describes Islam's theological approach towards disease transmission. Modern commentators, including many conservative Muslims, argue that Islam is theologically predisposed to deny disease transmission, particularly in the context of the plague, instead framing illness as non-communicable. Whether an individual contracts a disease, they claim, is a consequence of Divine Will, as the originator of that disease in the first place. No room exists for lesser causative factors, like contagion. However, a review of Islamic scripture and the pre- and early modern Muslim responses to it across regions as diverse as North Africa and Southeast Asia reveals a far richer and more complex understanding. While several ḥadīths *do ostensibly deny contagion, Muslim jurists and medical practitioners have, far from reading these as denials of disease transmission in all its forms, positioned such statements alongside other* ḥadīths *acknowledging the reality of that phenomenon. Utilizing the theological principle of secondary causation, they have imparted congruence to these statements, creating a theological space in which disease can be passed from one host to another without compromising the integrity of the Divine Will. The recent COVID-19 pandemic foregrounds the importance of re-discovering and re-emphasizing these interpretations, especially as small yet persistent groups of Muslims refuse vaccination in the belief that God alone can protect them from illness. Such views arguably misunderstand Islamic teachings.*

Keywords

Islamic medicine, contagion, disease transmission, secondary causation, predestination, Divine Will, Islamic theology, Malay medicine, anti-vax.

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Introduction

Since the late 1970s, the academe has characterized Islam as theologically predisposed to deny contagion, defined as "the communication of disease from one person or organism to another by close contact."[1] This denial, scholars argue, as reflected in several *ḥadīth*s, is rooted in two core Islamic theological principles: Divine Unicity (*tawḥīd*) and predestination (*al-qaḍā' wa 'l-qadar*). Together, these principles transform disease into a non-communicable act of God, willed by Him alone, upon whomsoever He wishes. The current article, building upon the earlier work of J. Stearns,[2] problematizes this characterisation. Although perceptions of disease as non-communicable undoubtedly circulated through the Islamic world up to at least the nineteenth century—if not the present—many early Muslim theologians, jurists, and medical practitioners not only acknowledged disease transmission but sought theologically coherent explanations for it. While being cognisant of *tawḥīd* and predestination, they argued that God creates within corporeal entities a potentiality (will and desire) to act. Called secondary causation, this potentiality allows actions ordained by God (including the spread of disease) to become manifest. Within this context, traditionally identified agents of contagion—malevolent spirits, noxious vapours, and physical contact—become divinely appointed agents of disease transmission. Far from denying the spread of disease, therefore, Islamic thought created a theological space in which that phenomenon could sit alongside an all-powerful, all-ordaining God.

Modern-day anti-vax campaigns demonstrate the contemporary relevance of these issues. Although a very small minority of Muslims identify themselves as anti-vaxxers, those who do are both vocal and influential; online anti-vax campaigns driven by Muslims have dramatically increased parental hesitancy towards child vaccination programmes in many Muslim countries, sometimes with fatal consequences.[3] While the principal concerns of many Muslim anti-vaxxers revolve around the presence of non-*ḥalāl* ingredients (such as pig DNA) within vaccines, the issue of divine pre-determinacy also

[1] As defined by the *Oxford English Dictionary* (OED).
[2] Justin Stearns, "Contagion in Theology and Law: Ethical Considerations in the Writings of Two 14th Century Scholars of Nasrid Granada," *Islamic Law and Society* 14, no. 1 (2007): 109-29.
[3] Ahmad Badri Abdullah, "Halal Vaccine and the Ethical Dimension of Vaccination Programmes," *Islam and Civilisational Renewal* 5, no. 3 (2014): 450-53.

figures.[4] A 2007-survey of attitudes towards polio vaccination within rural Khyber Pakhtunkhwa Province, Pakistan, for example, found that conservative clerics were actively discouraging vaccination, arguing that it "was against the Hadith and the fate determined by God," being "an artificial alteration" of the latter. The same survey found comparable perspectives across neighbouring Afghanistan and India, as well as in Nigeria.[5] More recently, a 2021-online survey of Malaysian Muslim attitudes towards COVID-19 vaccination found that eight per cent of respondents believed that their "religion/philosophy/culture recommends against vaccination."[6] A similar study conducted the following year found that two per cent of Malaysians felt their "religion prohibits [them] from getting vaccinated."[7] While neither survey probed the motivations underpinning these claims, contemporary Malaysian media reports portray *bomoh*s (traditional medicine men) as the primary agents behind anti-vax campaigns, particularly within rural areas like Kelantan. Often claiming special religious knowledge, as well as access to the spirit world, *bomoh*s teach that disease is a consequence of Divine Will, with all infection being predetermined by Divine Decree. Any attempt to avoid inflection via vaccination is, therefore, both futile and impious.[8] As demonstrated by this article, however, this perspective both oversimplifies and misunderstands Islamic teachings.

Disease and Its Transmission in the Qur'ān and *Ḥadīth*

Islamic scripture frequently uses disease to signify divine displeasure, presenting it as a form of chastisement (*rijz* or *'adhāb*) willed by God alone. Constituting something of a recurrent pedagogical leitmotif,

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[4] "Some Malaysian Doctors Urge Crackdown on Anti-vaxxers," *Today*, December 26, 2020, accessed on January 28, 2022, https://www.todayonline.com/world/some-malaysian-doctors-urge-crackdown-anti-vaxxers; Sadakat Kadri, "For Muslims Wary of the Covid Vaccine: There's every religious reason not to be," *The Guardian*, February 18, 2021, accessed on January 30, 2022, https://www.theguardian.com/commentisfree/2021/feb/18/muslims-wary-covid-vaccine-religious-reason.

[5] Hitoshi Murakami et al., "Refusal of Oral Polio Vaccine in Northwestern Pakistan: A Qualitative and Quantitative Study," *Vaccine* 32 (2014): 1382-87.

[6] June Fei Wen Lau et al., "Factors Influencing Acceptance of the COVID-19 Vaccine in Malaysia: A Web-based Survey," *Osong Public Health and Research Perspectives* 12, no. 6 (2021): 361-73.

[7] Jason Wei Jian Ng et al., "Key Predictors of COVID-19 Vaccine Hesitancy in Malaysia: An Integrated Framework," *PLOS One* (May 2022), https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0268926.

[8] "Jangan tanya Tok Bomoh pasal COVID-19, kata Hadi," *Malaysianow*, January 8, 2021, https://www.malaysianow.com/my/news/2021/01/08/jangan-tanya-tok-bomoh-pasal-covid-19-kata-hadi.

plagues and pestilence are frequently depicted in the Qur'ān as punishment for disobeying divine ordinances, something the text causally links to insufficient *taqwā* (God-consciousness). The Great Plagues of Egypt, for example, are described in 7:130-35 as punishment for ancient Egyptian arrogance and superstition: "But when good came, they said, 'This is due to us;' when gripped by calamity, they ascribed it to evil omens connected with Moses and those with him!"[9]

If the Egyptians had possessed sufficient *taqwā*, which ultimately entails an awareness that God directs all human affairs, they would have perceived their blessings and misfortunes as natural consequences of either divine benevolence or wrath, respectively. Instead, they arrogantly attributed success to their own actions and misfortune to external forces (Moses and his followers). In consequence, God punished the Egyptians with a pestilence (*ṭūfān*, lit. cataclysm) described as a "sign" (*āyah*) intended to chastise transgressors while simultaneously instructing believers.

While disease emerges in similar terms elsewhere in the Qur'ān, such as in 2:59, where "the transgressors [who] changed the word [of revelation] from that which had been given to them" were punished with "a plague from heaven," in the *ḥadīth* disease is also one of the five major signs of *Yawm al-Qiyāmah* (the Day of Judgement), a time when the commands of God will have been forgotten. In that context, the Prophet Muḥammad (peace be on him) warned: "Immorality never appears among a people to such an extent that they commit it openly, but plagues and diseases that were never known among their predecessors will spread among them."[10]

Also from among the *ḥadīth* is the admonitory tale of Abrahah al-Ashram, the Ethiopian Christian who governed Yemen shortly before the birth of the Prophet Muḥammad. Upon gaining power, Abrahah constructed a large church at Sanaa, the Yemeni capital, to which he attempted to divert all Arab pilgrims bound for Mecca. This brought Abrahah into conflict with the Quraysh, prompting him to launch an expedition against their holy city, to destroy the Ka'bah. This expedition, which forms the subject of *sūrat al-Fīl*,[11] supposedly took place in the year of the Prophet's birth (570 CE) and was famously accompanied by an elephant. Although it successfully reached Mecca, Abrahah's expedition was miraculously repulsed by an army of birds sent by God to defend His sanctuary. As the Yemeni army retreated,

[9] Also see Qur'ān 17:101-02.
[10] Muḥammad b. Yazīd b. Mājah, *Sunan*, kitāb al-fitan, bāb al-'uqūbāt, *ḥadīth* no. 4019.
[11] Qur'ān 105:1-5.

> they were continually falling by the wayside dying miserably [of disease] by every waterhole. Abraha was smitten in his body, and as they took him away his fingers fell off one by one. Where the finger had been, there arose an evil sore exuding pus and blood. . . . That year was the first time that measles and smallpox had been seen in Arabia.[12]

Thus, as a punishment for attempting to defile God's sanctuary, and thereby transgress His commands, Abrahah and his men were struck by severe pestilence.[13]

Expanding upon this pedagogical theme, one oft-cited *ḥadīth* narrated on the authority of 'Ā'ishah, wife of the Prophet, states,

> I asked the Messenger of Allāh about the plague. He said, "That was a means of torture which Allah used to send upon whomsoever He wished, but He made it a source of mercy for the believers, for anyone who is residing in a town in which this disease is present, and remains there and does not leave that town, but has patience and hopes for Allāh's reward, and knows that nothing will befall him except what Allāh has written for him, then he will get such reward as that of a martyr."[14]

As in the examples cited above, disease (specifically, the plague) is here presented as something willed by God, at His sole discretion, upon whomsoever He pleases. Unlike in the other accounts, however, disease need not necessarily constitute punishment; it is also a mercy for believers who, rather than flee its dangers, choose to remain within plague-stricken lands in the belief that God will either protect them or allow them to die as martyrs. Significantly, beginning with the early Muslim theologian Ibn Qutaybah (d. 889 CE), exegetes have extended this principle to another *ḥadīth*, in which the Prophet states,

> The plague was a means of torture sent on a group of Israelites (or on some people before you). So, if you hear of its spread in a land, do not approach it, and if a plague should appear in a land where you are present, then do not leave that land in order to run away from it [the plague].[15]

Within the context of the previous *ḥadīth*, this prohibition against either entering or leaving a plague-stricken land is to be read theologically: because the disease is willed by God, it constitutes part of

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[12] Ibn Ishaq, *The Life of Muhammad* (Sirat Rasul Allah), trans. A. Guillaume (Oxford: Oxford University Press, 2010), 27. A full account of this expedition appears on 21-27.

[13] Identified in the passage as measles and smallpox, two diseases that were often conflated during the pre-modern period. Perhaps coincidentally, the year 570 CE saw Europe experience its first (known) smallpox outbreak. See Michael W. Dols, "Plague in Early Islamic History," *Journal of the American Oriental Society* 94, no. 3 (1974): 375.

[14] Muḥammad b. Ismā'īl al-Bukhārī, *Ṣaḥīḥ*, kitāb al-ṭibb, bāb ajr al-ṣabr fī 'l-ṭā'ūn, *ḥadīth* no. 5734.

[15] Ibid., kitāb aḥādīth al-anbiyā', bāb ḥadīth al-ghār, *ḥadīth* no. 3473.

the Divine Decree and cannot be avoided. Should Muslims, therefore, find themselves faced with plague, they should neither flee from it in a vain attempt to escape what God has willed nor seek it out in an attempt to be martyred when God has willed otherwise. They must instead trust in what God has ordained for them. To do otherwise is an act of impiety.

Certainly, this reasoning is consistent with broader Islamic theological teachings: if illness (whether the plague or something else) is a product of the Divine Will, then the central Islamic tenet of *tawḥīd*, by positing only one undivided godhead, must entail that there can correspondingly be only one undivided will underlying the spread of disease.[16] Within (particularly early) Islam, this theological imperative sat alongside an equally potent belief in predestination or the belief that God predetermines the fate of all living things.[17] Together, *tawḥīd* and predestination demanded that the spread of disease be attributable to God alone. No lesser forms of causation, such as contagion, were possible. Perhaps unsurprisingly, therefore, some *ḥadīth*s explicitly reject contagion. For example:

> The Messenger of Allāh said, "There is no *'adwā* [contagion], no *ṭiyarah* [omens] and no *hāmah* [owl as an evil omen]." A Bedouin man stood up and said, "O Messenger of Allāh, what do you think about a camel that suffers from mange and then all other camels get mange?" He [the Prophet] said, "That is because of the Divine Decree. How else did the first one get mange?"[18]

Here, an explicit rejection of contagion (*'adwā*) occurs alongside the dismissal of two pre-Islamic Arab superstitions, *ṭiyarah* and *hāmah*. The first of these involved extracting portents, both good and bad, from the movement of animals, notably birds, while the second framed owls perched upon graves as the manifestation of restless spirits seeking revenge against the living.[19] From other *ḥadīth*s,[20] we know that the Prophet denounced both these superstitions as *shirk* (polytheism, a fundamental contravention of *tawḥīd*) because they encouraged believers to place their trust in something other than God by implying an ability to subvert the Divine Decree, whether by foreknowledge of the future or some other means.[21] That contagion is placed alongside these

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[16] Stearns, "Contagion in Theology and Law," 121.
[17] Khalid Blankinship, "The Early Creed," in *The Cambridge Companion to Classical Islamic Theology*, ed. Tim Winter (Cambridge: Cambridge University Press, 2008), 38.
[18] Ibn Mājah, *Sunan,* kitāb al-muqadimah, bāb fī 'l-qadr, *ḥadīth* no. 86.
[19] Stearns, "Contagion in Theology and Law," 113-14.
[20] See Abū Dāwūd Sulaymān b. al-Ash'ath, *Sunan*, kitāb al-ṭibb, bāb fī 'l-ṭiyarah.
[21] Abu Ameenah Bilal Philips, *The Fundamentals of Tawhid* (Riyadh: International Islamic Publishing House, 2005), 80-85.

superstitious practices suggests that the Prophet similarly interpreted *'adwā* as a violation of *tawḥīd*. Such an interpretation would indeed be consonant with the broader topography of pre-Islamic Arab belief, which customarily attributed the spread of disease to either *jinn* (malevolent spirits) or an agency inherent within the disease itself (contagion, *'adwā*). Within this context, the spread of mange among camels was frequently cited as proof of a disease's inherent ability, independent of any divine will, to travel from one host to another.[22] That the above *ḥadīth* explicitly addresses the spread of mange indicates the Prophet's concern indeed lay with refuting this pre-Islamic belief. The disease was rather conceived of as a product of Divine Will alone; to attribute its transmission to anything other than God was to deny *tawḥīd*. The Prophet's opposition to contagion, therefore, stemmed from his broader concern with enforcing a strict monotheism.

Several contemporary scholars, including Michael W. Dols and Lawrence I. Conrad, have drawn upon this reasoning to suggest that Islamic theology denies contagion, or the ability of a disease to transmit itself, in favour of divine pre-determinacy. To reinforce this conclusion, they point towards several additional *ḥadīth*s in which Companions of the Prophet seemingly support such a position. Oft-cited in this regard is the account of a journey made by 'Umar b. al-Khaṭṭāb, the second rightly guided caliph, to Syria in 638 CE. Soon after entering the region, 'Umar was met by Abū 'Ubaydah b. al-Jarrāḥ, the commander of the Muslim army in Syria, who informed him of an outbreak of plague. After consulting prominent members of the community,

> 'Umar made an announcement, "I will ride back to Medina in the morning, so you [Abū 'Ubaydah] should do the same." Abū 'Ubaydah b. al-Jarrāḥ said, "Are you running away from what Allāh has ordained?" 'Umar said, "Would that someone else had said such a thing, O Abū 'Ubaydah! Yes, we are running from what Allāh has ordained to what Allāh has ordained. Do you not agree that if you had camels that went down a valley having two places, one green and the other dry, you would graze them on the green one only if Allāh had ordained that, and you would graze them on the dry one only if Allāh had ordained that?"[23]

This *ḥadīth*, Dols and Conrad argue, sees 'Umar frame Divine Will as the sole causative factor underlying human affairs; whether one contracts a disease (the plague) or is spared its ill effects is determined

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[22] Lawrence I. Conrad, "Epidemic Disease in Formal and Popular Thought in Early Islamic Society," in *Epidemics and Ideas: Essays on the Historical Perception of Pestilence*, ed. Terence Ranger and Paul Slack (Cambridge: Cambridge University Press, 1995), 83-84.
[23] Mālik b. Anas, *Muwaṭṭa'*, kitāb al-jāmi', bāb mā jā'a fī 'l-ṭā'ūn.

solely by the Will of God. By the ninth century CE, when the earliest (known) Muslim treatises on disease emerged, Dols and Conrad claim that *ḥadīth* such as this had established Divine Will as the sole arbiter of sickness, with no role being allowed for other causative factors, whether evil entities or contagion.[24] To support this contention, both authors point to juristic and theological treatises produced during the Black Death (fourteenth to fifteenth centuries). The *Badhl al-Mā'ūn fī Faḍl al-Ṭā'ūn* (An Offering of Kindness on the Virtue of the Plague), for example, completed in 1431 CE by Egyptian Shāfi'ī jurist and *ḥadīth* specialist, Ibn Ḥajar al-'Asqalānī (d. 1449 CE), and perhaps pre-modern Islam's most comprehensive treatment of the plague, draws upon the above-cited *ḥadīth* to frame that disease as an expression of God's Will, visited upon whomsoever He wishes, whether as a source of punishment or martyrdom.[25] A similar perspective also underpins the influential *Mā Rawāhu 'l-Wā'ūn fī Akhbār al-Ṭā'ūn* (Knowledgeable Accounts of the Stories of the Great Plague), written by Egyptian historian Jalāl al-Dīn al-Suyūṭī (d.1505). Faced with the ontological necessity of an all-powerful God, al-Suyūṭī rejected all forms of disease causation besides Divine Will, including *jinn*, the agency of disease itself, or chance.[26]

To conclude from these examples, however, that Islamic thought in its entirety rejected disease transmission in favour of divine pre-determinacy is both questionable and somewhat simplistic. Certainly, other *ḥadīth*s appear to admit the possibility of disease transmission. One report, for example, has the Prophet saying:

> There is no *'adwā*, no *hāmah* and no *ṣafar* [serpent in a hungry belly]. However, the possessor of sick livestock must not stop at the same place as the possessor of healthy livestock, but the possessor of healthy livestock may stop wherever he wishes." They said, "Messenger of Allāh, why is that?" The Messenger of Allāh, may Allāh bless him and grant him peace, said, "It is harmful."[27]

Although this *ḥadīth* again explicitly denies contagion, it acknowledges the transmissibility of disease (from unhealthy livestock to healthy livestock). So, apparently, do two other widely reported *ḥadīth*s, one stating "flee from the leper as you would flee from the lion,"[28] and "the plague is the stinging of the *jinn*" or "the stinging of the

[24] Dols, "Early Islamic History," 377; Conrad, "Epidemic Disease," 86, 97-98.
[25] Dols, "Early Islamic History," 374; Manfred Ullmann, *Islamic Medicine* (Edinburgh: Edinburgh University Press, 1978), 96; Joseph P. Bynre, *Encyclopedia of the Black Death* (Santa Barbara, CA: ABC-CLIO, 2012), 3.
[26] Conrad, "Epidemic Disease," 86.
[27] Mālik, *Muwaṭṭa'*, kitāb al-jāmi', bāb 'iyādat al-marīḍ wa 'l-ṭiyarah.
[28] Al-Bukhārī, *Ṣaḥīḥ*, kitāb al-ṭibb, bāb al-judhām, *ḥadīth* no. 5707.

jinn invoked by your enemy."[29] Many scholars, both Muslim and non-Muslim, past and present, have held these *ḥadīth*s in contradistinction to those cited above.[30] Conrad, in particular, has read their apparent incongruity as evidence of theological evolution. Characterizing those traditions that affirm disease transmission as the most authentic, because they more accurately reflect the pre-Islamic cultural milieu into which the Prophet Muḥammad emerged, Conrad argues that contagion-denying *ḥadīth*s are probable pious inventions, crafted by later *'ulamā'* eager to accommodate increasingly important notions of *tawḥīd*.[31] Given the centrality Divine Unicity enjoys within the Qur'ān, however, generally accepted to be an accurate reflection of the Prophet Muḥammad's teachings, this interpretation is questionable; the contrasting opinions evident above arguably require a more nuanced explanation than mere contradiction. Significantly, therefore, as argued by Stearns, far from denying disease transmission, many early Islamic treatments of the subject evolved a theologically complex understanding of how such could occur within the context of an all-powerful God.

Re-Defining Disease Transmission as Secondary Causation

Ta'wīl Mukhtalif al-Ḥadīth (the Reconciliation of Contradictions in *Ḥadīth*), completed in *ca.* 870 CE by Ibn Qutaybah, a *qāḍī* (judge) based in Basra, is the earliest known juristic work to address the issue of disease transmission as presented in Islamic scripture.[32] Although Ibn Qutaybah's mindfulness of *tawḥīd* and the above-cited Prophetic traditions prevented him from acknowledging the existence of *'adwā*, when describing mange and leprosy, the diseases taken up by the Prophet above, he readily accepted the reality of disease transmission. For example, regarding mange, Ibn Qutaybah stated,

> When mange breaks out on a camel . . . the others [in the herd] mix and intermingle with it and betake themselves to the same place where it

[29] Aḥmad ibn Ḥanbal, *Musnad* (Cairo: Dār al-Ḥadīth, 1995), 4:395, 413, *ḥadīth* nos. 11-14, 25-27. Peter Sarris mistakenly attributes these sayings to Ḥassān b. Thābit, an influential Arab poet and companion of the Prophet, see Peter Sarris, "Bubonic Plague in Byzantium: The Evidence of Non-Literary Sources," in *Plague and the End of Antiquity: The Pandemic of 541-750*, ed. Lester K. Little (Cambridge: Cambridge University Press, 2007), 124.

[30] See Anna Akasoy, "Islamic Attitudes to Disaster in the Middle Ages: A Comparison of Earthquakes and Plagues," *The Medieval History Journal* 10, nos. 1-2 (2007): 396-97.

[31] Conrad, "Epidemic Disease," 86.

[32] Lawrence I. Conrad, "A Ninth-century Muslim Scholar's Discussion of Contagion," in *Contagion: Perspectives from Pre-modern Societies*, ed. Lawrence I. Conrad and Dominik Wujastyk (London: Routledge, 2000), 164.

> kneels down to eat, [and so] they will be brought into contact with the fluid and pus issuing from it[s sores] and so contract the disease from which it suffers.[33]

Physical contact with the outward manifestations of disease (sores exuding pus) is, therefore, identified as a source of transmission. Turning to leprosy, Ibn Qutaybah argued that "the leper gives off an odour so strong that it causes anyone who long remains in his presence or eats with him to fall ill [with leprosy]."[34] Here Ibn Qutaybah is referring to *miasma* (pollution), a Greek term used from the fifth century BCE onwards, including in the Hippocratic Corpus, to denote noxious vapours thought to emanate from various diseases and deemed capable of transmitting those illnesses.[35] From this and the previous example, it is clear that rather than reject disease transmission, Ibn Qutaybah accepted popular, contemporary scientific explanations for that phenomenon—although, crucially, without using the term *'adwā* to describe them.[36]

Far from being an isolated opinion, this (or an analogous) stance emerges among several other pre-modern Islamic scholars. In tenth-century Tunis, for example, jurist Ibn Abī Zayd al-Qayrawānī (d. 996 CE) issued a *fatwā* (legal opinion) stating that, although someone with leprosy could not be expelled from the community, because no Muslim should abandon another, they could be prevented from attending the mosque or drinking from communal water sources lest they spread their infection. In apparent congruence with this opinion, over the early twelfth century, again in Tunis, Abū 'Abd Allāh al-Māzarī (d. 1141 CE) refers to a leper colony at al-Qayrawān, called *rabḍ al-mubtalīn*. This community was kept separate from the rest of the city, suggesting a belief in disease transmission—although al-Māzarī mentions Sufis attending *dhikr* (remembrance) and *taghbīr* (Qur'anic readings) at the suburb's mosque. Finally, later that same century, the famed al-Andalusian jurist and philosopher, Abū 'l-Walīd Ibn Rushd al-Qurṭubī (d. 1198 CE), issued a *fatwā* declaring that an *imām* with leprosy should be removed from office lest he infects his congregation. Ibn Rushd based this opinion on a *ḥadīth* in which 'Umar b. al-Khaṭṭāb barred a woman

[33] Cited in ibid., 169.
[34] Ibid.
[35] Jacques Jouanna, *Greek Medicine from Hippocrates to Galen: Selected Papers* (Leiden: Brill, 2012), 121-22.
[36] Stearns, "Contagion in Theology and Law," 124-25.

with leprosy from circumambulating the Ka'bah on the grounds that she might infect others.[37]

Running parallel with these juristic opinions, the ninth century onwards also saw many Muslim physicians vocally defend disease transmission. Calling it either *i'dā'* (transmission) or *sirāyah* (hidden movement), presumably to distinguish it from the theologically questionable *'adwā*, it was again linked to *miasma* and used to explain the spread of numerous illnesses. Prominent ninth- and tenth-century physicians Thābit b. Qurrah (d. 901 CE) and 'Alī b. al-'Abbās al-Majūsī (d. 994 CE), for example, categorized leprosy, scabies, consumption, phrenitis, smallpox, trachoma, and albugo as 'contagious' in these terms. Al-Majūsī, in particular, echoing the contemporary *fatwā* by al-Qayrawānī, forbad lepers from public bathing in case the *miasma* associated with them infected others.[38] Developing this principle still further, the famed Central Asian medical practitioner, jurist, and philosopher, Abū 'Alī Ibn Sīnā (d. 1037 CE), author of *Kitāb al-Shifā'* (Book of Healing, *ca*.1020 CE) and *al-Qānūn fī 'l-Ṭibb* (the Canon of Medicine, 1025 CE), contended that scientific observation had established beyond doubt that disease was transmissible. He suggested that infected individuals undergo *al-arba'īniyyah* (the forty), an isolation period of forty days designed to limit the extent of outbreaks. Later adopted by Venetian physicians (who termed it *quarantena*, Italian for "the forty"), this practice subsequently informed modern Western conceptions of quarantine.[39] Finally, during a 1349 CE outbreak of plague across Nasrid Granada, the historian and influential vizier Lisān al-Dīn Ibn al-Khaṭīb (d. 1374 CE) authored a medical treatise entitled *Muqni'at al-Sā'il 'an al-Maraḍ al-Hā'il* (A Convincing Reply to Those Enquiring about the Dreadful Disease), in which he stated,

> For him who has treated or recognised this case, it cannot remain concealed that mostly the man who has had contact with a patient infected with this disease must die, and that, on the other hand, the man who has had no contact remains healthy.[40]

This extract clearly asserts the reality of disease transmission. While some modern commentators have suggested that al-Khaṭīb sat outside Islamic orthodoxy on these (and other related) issues, as indicated by his

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[37] Russell Hopley, "Contagion in Islamic Lands: Responses from Medieval Andalusia and North Africa," *Journal for Early Modern Cultural Studies* 10, no. 2 (2010): 46-48. For the *ḥadīth*, see Mālik, *Muwaṭṭa'*, kitāb al-ḥajj, bāb jāmi' al-ḥajj.

[38] Ullmann, *Islamic Medicine*, 87-89.

[39] Richard Colgan, *Advice to the Young Physician: On the Art of Medicine* (New York: Springer, 2009), 33.

[40] Cited in Hopley, "Contagion," 55.

eventual murder for heresy at the hands of an angry mob in Fez,[41] this characterization is misleading; al-Khaṭīb's opinion sits comfortably alongside those cited above, while his death resulted from political machinations instigated by his opponents, not any issue of doctrinal conformity.[42] Indeed, both earlier and later periods of Islamic history provide a glut of additional—albeit anecdotal—evidence supportive of a popular belief in disease transmission, especially *miasma*.

Over the first Islamic century, for example, re-occurring outbreaks of plague swept across both Iraq and Syria.[43] According to al-Suyūṭī's *Mā Rawāhu 'l-Wā'ūn fī Akhbār al-Ṭā'ūn*, during the fifth such outbreak, known as the Plague of al-Ashrāf (the Notables, 716-717 AH), a merchant from Khurasan travelled to Damascus with a cargo of musk. There he visited the household of the crown prince, Ayyūb b. Sulaymān b. 'Abd al-Malik, who bought his entire cargo as a fumigant against the spread of the disease—although Ayyūb, his family, and all his servants would die soon after. This account reveals a belief in *miasma*: sweet-smelling substances like musk were typically used to cleanse the air of such malevolent influences.[44]

Equally instructive demonstrations of a popular Muslim belief in disease transmission also emerge much later, in nineteenth-century Malaya. There an ancient, primarily oral tradition of medicine was carried wholesale into the Islamic period. Enacted by professionals

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[41] Michael W. Dols, *The Black Death in the Middle East* (Princeton: Princeton University Press, 1977), 93-94; Ullmann, *Islamic Medicine*, 95-96.

[42] Stearns, "Contagion in Theology and Law," 124.

[43] The first known outbreak of bubonic plague occurred in 541 CE, in the Egyptian port city of Pelusium (eastern Nile Delta). By spring 542, the disease had spread across the entire Mediterranean, forming the well-known Plague of Justinian. This re-occurred over 9- to 12-year intervals until 750. According to Abū 'l-Ḥasan 'Alī b. Muḥammad al-Madā'inī (d. 843 CE), in his *Kitāb al-Ta'āzī* (Book of Condolences), five major reoccurrences of plague took place during the early Islamic period: 1) the Plague of Shīrawayh (627-628 CE), centred on Ctesiphon (Madā'in), which claimed the life of the Persian Shah Siroes; 2) the Plague of 'Amwās (638-639 CE), which struck a Muslim military encampment between Jerusalem and al-Ramalah, killing approximately 25,000 soldiers, including the Companion Abū 'Ubaydah b. al-Jarrāḥ; 3) the Plague of Jārif (688-689 CE), which struck Basra, reputedly causing 70,000, 71,000, and 73,000 deaths on three successive days; 4) the Plague of al-Fatayāt (706 CE), said to have started among the young women of Basra; and 5) the Plague of al-Ashrāf (716-717 CE). See Dols, "Early Islamic History," 376-79. See also Lawrence I. Conrad, "Arabic Plague Chronologies and Treatises: Social and Historical Factors in the Formation of a Literary Genre," *Studia Islamica* 54 (1981): 51-93.

[44] The merchant also observed several superstitious practices designed to prevent the spread of disease, including whitewashing walls and wearing yellow, see Dols, "Early Islamic History," 379.

known as either *bomoh*s or *pawang*s, it postulated a two-fold conception of disease transmission: either by malevolent spirit or a natural "influence" called *badi*.[45] Associations between malevolent spirits and disease transmission likely permeated Southeast Asia before the arrival of Islam; the Malay Peninsula's indigenous tribal population, the *orang asli*, still attribute disease transmission to the spirits of deceased individuals (called *kemoit*) who supposedly prey upon the souls of the living (*wok* or *bayak*).[46] For the nineteenth-century Malay Muslim, however, and recalling the "stinging of the *jinn*" *ḥadīth* cited above, non-human spirit entities (*jinn*) were deemed capable of entering the bodies of the living in order to cause specific ailments. To effect a cure, a medicine man had to be summoned to coax the spirit out, usually using an *ancak* (sacrificial tray). Decorated around the edges with *jari lipan* (plaited leaves), along whose shadows spirits could travel to enter the *ancak*,[47] these trays were hung near a patient's house and loaded with (primarily food) offerings that, it was hoped, would appease the disease-bearing spirits, persuading them (and their ill effects) to depart. Should this fail, an *ancak pelunas* (sacrificial boat) could be used. After trapping evil spirits, these were removed to the jungle or set adrift upon a body of water, thereby removing the cause of the disease.[48]

Turning to the second traditional Malay Muslim explanation for disease transmission, *badi* constituted a naturally occurring influence or force that, potentially present within any object, living or inanimate, acted to cause infection. It was also said to induce intense fear, akin to being haunted.[49] Sometimes described in almost anthropomorphic terms, the Malays counted either 190 or 193 forms of *badi*, the origins of which were variously described as the blood of Adam, the "offspring" of

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[45] Harun Mat Piah, "*Kitab Tibb Melayu*: The Tradition and Its Scope," in *Malay Medical Manuscripts: Heritage from the Garden of Healing*, ed. Mohd. Affendi Mohd. Shafri and Intan Azura Shahdan (Kuala Lumpur: The Islamic Manuscript Association, 2017), 2-4.

[46] Ivor H. N. Evans, *Studies in Religion, Folk-Lore and Custom in British North Borneo and the Malay Peninsula* (Cambridge: Cambridge University Press, 1923), 218-89.

[47] Ibid., 219.

[48] Walter W. Skeat, *Malay Magic, Being an Introduction to the Folklore and Popular Religion of the Malay Peninsula* (London: Macmillan and Company, 1900), 414-45. Evans observed similar trays among the non-Muslim Sakai tribes of Negeri Sembilan and Selangor, see Evans, *Studies in Religion*, 212. Among the Malays, evil spirits can also be propitiated using two types of banana leaf receptacle: a *buang-buangan limas* and *ambang-ambangan*. The first is a folded container that, loaded with offerings, is fixed with a bamboo pin and set adrift upon either a river or the ocean. The second is a rolled container that, when likewise loaded with offerings, is deposited where three roads meet, see Skeat, *Malay Magic*, 423-24.

[49] R. J. Wilkinson, *Malay-English Dictionary* (Singapore: Kelly and Walsh Limited, 1901), 78.

Ibnu Jan (a *jinn* resident in the clouds and hollows of hills),[50] the iguana (*biawak*), the central core of a tree, or the yellow glow of sunset (expressing the power of Mambang Kuning, the pre-Islamic Yellow Deity).[51] Most frequently transferred by touch, *badi* could also be encountered in the stare of a tiger or snake, when passing under poisonous trees, or when encountering the *hantu pemburu* (Spectral Huntsman).[52] To counter *badi*, a bundle of branches and leaves could be used; made from the *pulut-pulut* (melochia corchorifolia) and *selaguri* (alysicarpus vaginalis) shrubs, with additional branches from the *gandarusa* (gendarus vulgaris) and *lenjuang merah* (red dracaena) trees, all wrapped up with a *sepulih* (fragraea racemosa) leaf tied with tree bark, this bundle would be passed over a patient's body, wiping away the *badi*. Afterwards, the patient would bathe in water containing fragments of ebony, brazilwood, lakawood, sandalwood, and eaglewood, in the belief that this combination of aromatics would have a further cleansing effect.[53] Alternatively, seven different types of lime could be used to wash the patient three times each day—at sunrise, noon, and sundown.[54] If imagined in more anthropomorphic terms, *badi* could be invited to enter a model *lancang* (royal barge) and set adrift, or the powerful Tiger Spirit could be called upon to banish it (as a lesser entity).[55]

Evidently, the transmission of disease from one individual to another was widely accepted among both Muslim intellectuals and the general Muslim populace, from pre-modern North Africa and the Middle East to nineteenth-century Malaya. But how was this possible within the context of *tawḥīd*? The solution to this conundrum finds eloquent expression in a *fatwā* attributed to the Granada jurist, Abū Sa'īd Ibn Lubb (d. 1381 CE), an earlier contemporary (and the teacher) of al-Khaṭīb. Ibn Lubb provided a comprehensive theological justification for disease

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[50] Demonstrating apparent conflation with the previous explanation for disease transmission, Arab tradition claims all *jinn* are descended from an entity called Jan and exist as members of either 190 or 193 tribes. "Ibnu Jan" (son of Jan) is, therefore, a perfectly legitimate (if general) designation for such malevolent spirits— although how *badi* might be "born" from them is unclear. See Skeat, *Malay Magic*, 93-95.

[51] *Mambang* signifies a lesser pre-Islamic deity, of whom the feminine Mambang Kuning was the most well-known. Associated with the red glow of sunset, Mambang Kuning was considered an evil omen and a bearer of disease. See Wilkinson, *Malay-English Dictionary*, 655.

[52] A demi-god from Sumatra who was once human. Roaming the forest with ghostly hunting dogs, his appearance signifies disease or death. Skeat, *Malay Magic*, 112-20.

[53] Ibid., 427-29.

[54] Ibid., 431.

[55] For a full account of such a ceremony involving the Tiger Spirit, see F. A. Swettenham, *Malay Sketches* (London: Bodley Head Ltd., 1895), 153-59.

transmission when responding to the same 1349 plague outbreak referred to above. While explicitly denying any ability inherent within a disease to transmit itself (that is, *ʻadwā*), Ibn Lubb referred to the example of a camel with mange, stating,

> The Prophet, Peace be Upon Him, did not deny the presence of that which infects in a place or through association or close relations. Yes, the Prophet decreed the belief that this is one of the creations of God the Most High who creates what He wishes and how He wishes. The Prophet denied the belief in the existence of a sickness that acts on another through its nature according to the beliefs of ignorant times.[56]

Disease transmission was, therefore, possible if created (allowed) by God. Here Ibn Lubb is referring to secondary causation, a theological concept first expressed Islamically (as far as is known) by Jahm b. Ṣafwān (d. 745-46 CE), a native of Khurasan who acted as secretary to al-Ḥārith b. Surayj (d. 746 CE), a Persian Muslim who led several rebellions against the Umayyads between 736 CE and 746 CE. Although definitive statements about Jahm's views are difficult because only fragments of his work survive within later doxographies, including the *Maqālāt al-Islāmiyyīn wa Ikhtilāf al-Muṣallīn* (Theological Opinions of the Muslims) of Abū 'l-Ḥasan al-Ashʻarī (d. 936 CE),[57] the following statement from that latter work is attributed to him:

> In reality, no activity [*fiʻl*] belongs to something except God alone. . . . However, God creates for man a particular potency by which the activity happens, and He creates for him in each individual case a particular act of will and a particular act of desire to exercise the particular activity.[58]

Accordingly, although all action belongs to God, He creates within humanity (and, crucially, other corporeal entities) a potentiality (will and desire) to act. It is through this potentiality, constituting a secondary form of causation, that the actions ordained by God become manifest.[59] Subsequently, this stance was refined by Kufan theologian Ḍirār b. ʻAmr (d. 815 CE), who argued that corporeal entities "acquire" (*kasaba*) the actions created by God.[60] He states, "The deeds [*aʻmāl*] of

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[56] Cited in Stearns, "Contagion in Theology and Law," 122.

[57] William Montgomery Watt, *The Formative Period of Islamic Thought* (Edinburgh: Edinburgh University Press, 1973), 143-44; Blankinship, "Early Creed," 44. Jahm was also the reputed originator of the controversial Jahmiyyah movement, known for affirming the createdness of the Qur'ān and denying the reality of the Divine Attributes.

[58] Cited in Cornelia Shöck, "Jahm b. Ṣafwān (d. 128/745-6) and the 'Jahmiyya' and Ḍirār b. 'Amr (d.200/815)," in *The Oxford Handbook of Islamic Theology*, ed. Sabine Schmidtke (Oxford: Oxford University Press, 2016), 65.

[59] Blankinship, "Early Creed," 45-46. Among early Shīʻah, a similar concept emerged with Hishām b. al-Ḥakam (d. 795 CE).

[60] Watt, *Formative Period*, 189-90.

human beings are created and that one and the same action has two agents, one of them creates it, and that is God, and the other acquires it, and this is man."[61]

Rooted in Qur'ānic verse 2:286, "On no soul does Allah place a burden greater than it can bear. It gets every good that it earns [through its actions]. And it suffers every ill that it earns [through its actions]," this "doctrine of *kasb*," when combined with secondary causation, allows continued attribution of all action to God while simultaneously imparting responsibility for those actions to their individual performers.[62] This notion was widely adopted within later Islamic theology, including among the ultimately dominant Ash'arī school. Within the current context, however, it constitutes the backdrop against which Ibn Lubb and others reconciled disease transmission with *tawḥīd*. Via secondary causation, influences like physical contact, *miasma*, and other communicative factors were transformed into divinely appointed agents of disease transmission, allowing the latter to take place without the difficulty of contagion in its pre-Islamic sense (malevolent spirits or inherent ability generating transmission independently of Divine Will).

The degree to which this theological schema permeated the Muslim world is evident from a 1915 account of the royal court at Kelantan (Malaya), authored by British physician and Residency Surgeon, John D. Gimlette. In this first-hand account, Gimlette describes an encounter with the Sultan of Kelantan's official physician, Tok Bomoh Encik Harun, a practitioner of traditional medicine and expert in religious doctrine. In a manner reminiscent of many modern-day *bomoh*s, when questioned about disease transmission, Tok Bomoh Encik Harun sought to attribute all infection to the Will of God. Unlike his contemporaries, however, Encik Harun simultaneously acknowledged the existence of lesser forms of causation; framing *jinn* as the specific cause of many illnesses, he quoted several early Malay manuscripts held at the royal court to argue that the ability of those entities to act was a consequence of what God had allowed—an obvious reference to secondary causation.[63] Although the specific Malay manuscripts Tok Bomoh Encik Harun referred to are now lost, they formed part of a broader, region-wide textual tradition known as *Kitab Tib* (Medical Books) or *Ilmu Hubat-hubatan* (Medical Knowledge), regional adaptations of the Arabic medical corpus referred

[61] Shöck, "Jahm b. Ṣafwān," 75.
[62] Watt, *Formative Period*, 192-93.
[63] John D. Gimlette, *Malay Poisons and Charm Cures*, 2nd ed. (London: J. & A. Churchill, 1923), 26-27.

to above.[64] These texts first emerged during the sixteenth and seventeenth centuries, mediating notions of secondary causation into the region and influencing traditional conceptualisations of disease transmission throughout the Malay Muslim world. While contemporary *bomoh*s appear to have forgotten such arguments, relying instead on simplistic appeals to divine pre-determinacy, some of their predecessors undoubtedly held more sophisticated views.

Conclusion

A superficial examination of Islamic literature provides an ambivalent—even contradictory—picture of disease and its transmission; while several Prophetic traditions explicitly deny contagion, others readily accept the transmissibility of disease. Many modern scholars—in addition to Muslims opposed to vaccination—emphasize the first group of traditions. For them, Islam is theologically predisposed to perceive disease as a consequence of Divine Will alone. In light of the preceding discussion, however, although pre-modern Muslim literati did reject notions of *ʻadwā* (contagion) based on its incompatibility with both *tawḥīd* and predestination, this did not entail a rejection of disease transmission more generally. On the contrary, Islamic North Africa, the Middle East, and Islamic Southeast Asia all possess long-held, often scientifically expressed traditions of disease transmission. Rather than sitting in opposition to religion, these were justified theologically, in tune with Islamic teachings. Thus, it was argued that, although all action belongs to God, He creates within corporeal entities a potentiality (will and desire) to act. Termed secondary causation, this potentiality constituted the means by which divinely ordained actions (including the spread of disease) became manifest. Within this context, influences like physical contact, *miasma*, and other communicative factors morphed into divinely appointed agents of disease transmission. Against this backdrop, contemporary Muslim anti-vax campaigns committed to dismissing vaccination programmes as impious attempts to subvert the Divine Decree arguably misunderstand Islamic theology. Since the eighth century CE, the latter has acknowledged the possibility, supported by several *ḥadīth*s, of disease transmission. Within that context, vaccination must always be a necessity.

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[64] Piah, "*Kitab Tibb Melayu*," 1-2; Farouk Yahya, *Magic and Divination in Malay Illustrated Manuscripts* (Leiden: Brill, 2016), 10.