From Jinns to Germs: 
A Genealogy of Pasteurian Islam1

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For Nikki R. Keddie
in appreciation of her historiographical contribution

Dr. Sorin Tumanians, a prominent Iranian physician, in his 1934 *Hygiene in the Religion on Islam* explained:

The Founder of the religion of Islam was well aware of the existence of microbes and knew how they penetrate the body . . . when he wanted to remind the people of the hygienic ordinances and . . . to instill fear in 

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their hearts so that they would obey these laws, in his pronouncements he used the names of jinn and devil instead of microbes.2

While the equivalence of jinns and microbes had been asserted by earlier thinkers, as a licensed physician, Dr. Tumanians provided detailed microbiological explanations for questions of “purity and filth” (taharah va nijasat), questions which had been conventionally elucidated by Shi‘i mujtahids in their responsa (tawzih al-masa‘il or risalah ‘amaliyah).3 Along with the commentary of large cadres of health workers and social critics, Dr. Tumanians’s intervention not only consolidated the transformation of the idea of “purity” (taharat) into “hygiene” (nizafat) and that of “impurity” (nijasat) to “dirty”/unhygienic (kisafat), it also contributed to what I am calling the Pasteurization of Islam (Islam-i pasturizah). This was a movement that was fundamental to the emergence of an embodied political Islam in the 1940s and beyond. This Pasteurian Islam, I argue, was crucial to the revolutionary discourse in the decades prior to 1979 Iranian Revolution.

Grounded in pre-microbiological epistemic foundations, the elucidations of Shi‘i mujtahids became targets of rigorous scientific censure in the late nineteenth century. At the core of the critics’ challenge was the definition of ritually “pure” water, a measurable body of water identified as kurr. Equal to three-and-half cubic spans or approximately 350 liters, kurr water was religiously required for the removal of all types of bodily “impurities.” Together with relatively similar notions of purity amongst Iranian Jews and Zoroastrians, the private homes and public spaces in Iran were equipped with either “running water” (ab-i jari) or water basins (hawz), which contained the ritually prescribed amount. The public baths (hammam), ablution sites (wuzu khanah), corpse-washing houses (murdah-shur-khanh), and other washing and cleansing sites were built on the bases of these same quantitative rules. These quantitative juridical requirements began to be challenged in the second half of the nineteenth century when the airborne account of contagious diseases was foundationally challenged

3On the emergence of Shi‘i responsa or tawzih al-masa‘il see Ahmad Kazemi Moussavi, “The Institutionalization of Marja‘-i Taqlid in the Nineteenth Century Shi‘ite Community,” The Muslim World, 84:3-4 (October 1994), 279-299; particularly see 294-295.
in favor of a waterborne explanation, a paradigmatic shift hailed as the Pasteurian Revolution.4

Before the rise of the microbiological Pasteurian paradigm, contagious diseases like cholera had been attributed to “miasma” (‘ufunat-i hava) or “poisonous air” (malaria). Like its counterparts worldwide that faced the challenge of preventing the spread of cholera, the Iranian Qajar state as early as the 1830s began a vigorous process of cleaning the air of urban centers by sweeping streets, collecting garbage, paving roads, removing walls, and building public toilets and laundry rooms.5 The state-initiated biopolitical measures for freshening the air of public spaces in nineteenth-century Iran concurred with the proliferation of Shi‘i responsa, tawzih al-masayil, which focused predominantly on questions of bodily purity and impurity (taharat and nijasat). Similar in its question-and-answer form to the rabbinic responsa and Christian catechism, the Shi‘i responsa explicated the everyday problems related to eating, drinking, copulating, masturbating, menstruating, defecating, urinating, copulating, fasting, as well as praying. In addition to the “flowing water” (ab-i jari), the kurr water was identified as essential to the eradication of all types of bodily “pollution” (nijasat) that resulted from these everyday activities.

With the impressive success of the Pasteurian Revolution, however, the ritually clean water was now transformed from the agent of purification to the cause of life-threatening epidemics. This life-and-death question challenged the authority of the mujtahids whose “practical dissertation” (risalah-‘i ‘amaliyah) had established them as catechizers and the “source of emulation” (marja‘-i taqlid). This epistemic crisis around concepts of disease led to a highly contentious debate over the incompatibility of

4According to According to Steve Sturdy, “The great achievement of the Pasteurian revolution was to identify disease with the presence and activity of microbes. In this act of translation, disease became something it had never been before, and microbes secured an existence beyond the laboratory.” See his “The germs of a new enlightenment,” Studies in History and Philosophy of Science, 22:1 (March 1991), 163-173; quote on 167. See also Michael Worboys, “Was there a Bacteriological Revolution in late nineteenth-century medicine?” Studies in History and Philosophy of Science Part C: Biological and Biomedical Sciences, 38:1 (2007), 20-42.

Shi‘i responsa with the modern sciences. Linked to an idea of the illnesses of the Iranian motherland (*madar-i vatan*), religious beliefs that were not compatible with microbiological accounts became increasingly identified as irrational and superstitious (*khurafati*). These included the widely accepted hadith that the devil resides underneath long nails.6

The late nineteenth-century anti-clerical writings of Mirza Fathali Akhundzadeh (1812–78), Abd al-Rahman Talibuf (1834–1910), and Mirza Aqa Khan Kirmani (1270–1314/1854–97), amongst others, were due to this observed incompatibility of juridical explications with microbiological explanations. Warning the “unfortunate people of Iran” (*millat-i badbakht-i Iran*), Mirza Agha Khan Kermani, for instance, observed:

In an era when scholars of civilized nations are discovering ‘floating planets’ in the infinite atmosphere, your scholars are negotiating the purity and impurity of scant water [ab-i qalil]. At a time when in political and diplomatic circles . . . thousands of major problems of the state, nation, and trade are being discussed and political scientists of the world are striving to resolve them, your jurists [fuqaha] are perplexed and in disagreement as to how to distinguish between ‘menstrual’ and ‘non-menstrual vaginal’ bleeding.7 (23)

Fath-ali Akhondzadeh(1227–95 HQ/1812–78 AD) likewise in admonishing the ‘ulama on similar matters stated:

Due to dissection and compelling proofs, the medical sciences in Europe have now changed . . . but you are still hanging onto the principles of the age of Socrates and Hippocrates . . . You do not know. Go learn. [Shuma nimidanid. Biravid yadbigirid].8

After describing the Pasteurian Revolution and the “the discovery of microscopic particles of diseases,” Abdul-Rahim Talibuf (1834–1910 AD),

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in censuring the unsanitary nature of what was considered to be juridically clean water, proclaimed:

If you examine the public bathhouses in Iran and other Muslim countries, which were established for purity and immersion [ghusl], and if you test a drop of water under magnification, you will learn what super-unhygienic [mafawq-i natamizi] is and what is the cause of all these home-destroying diseases that annually result in the construction of new cemeteries in our cities and all over the country. Amongst both the commoners and the elite, is there an Iranian who goes to a bathhouse and does not smell the mal (bad) air and does not retain the odor of the filthy bathhouses on his clothes or body for a considerable time?⁹

Like Talibof, others identified the ritually clean water of hammams and hawz as the culprit for the dissemination of contagious diseases. Linked to everyday questions of illness and death, the critiquing of such Islamic purity ordinances led to the larger debate over the incompatibility of science and religion. Fatali Akhundzadeh, for instance, explained that “science and faith” (‘ilm va i’tiqad) are irreconcilable: “To distinguish truth from falsehood and right from wrong, our fault until now has been that we have always mingled the two opposing entities and have considered them as one, while the two are (in fact) conflicting. One is science, and the other is faith.”¹⁰

Concerned with public health and public welfare, however, Iranian physicians, unlike the social critics and ideologues who sought to sharpen the divide, pragmatically sought to promote the concordance of science and religion. In their attempt to counteract the prevalent practices of washing and cleaning, medical professionals began to redefine Islamic jurisprudence in light of the microbiological Pasteurian Revolution. The convergence of Islamic purity and pasteurian health sciences was fundamental to this biopolitical endeavor.

Dr. Amir Alam [Ashoori Ghazvini], a prominent military physician, had embarked on this project of reconciliation in his 1904 doctoral dissertation, “Hygiène et Islamisme” [Islamic Hygiene] at Lyon University in France. In response to the critique of his dissertation that was published in 1905 in La presse médicale, Dr. Amir Alam explained:

11Emir Faraj Khan, “Hygiène et Islamisme” (PhD diss., Université de Lyon, 1904).
The current condition of public hygiene is unrelated to the sacred laws of Islam, and it completely contradicts the conception of the holy principles. The laws of Islam are generally in agreement with principles of Hygiene and no notion has been neglected by Islam. We stand for and defend the principles and verses of the Holy Quran, but not the way that they are enforced and implemented. I must state: Islam has no defects/all defects lie with us Muslims.12

Dr. Alam insisted that, “all of the holy scriptures of Islam concerning hygiene and in the preservation of human lives are fully based on reason and philosophy, and are in agreement with the [most] recent scientific discoveries.”13 Although he considered the purity ordinances of Islam to be in harmony with the health sciences, he agreed that

water is one of the most important issues in public and individual hygiene and is highly regarded in Islam. But the problem has been neglected and remains unresolved in Eastern countries. Some naive

believers wash their mouths, hands, and feet in the same courtyard basin that they use for ablution, and do not believe that this behavior is against Islamic laws.\textsuperscript{14}

Dr. Amir Alam considered the water distribution in Iran to be contrary to Islam and to public hygiene, as well as a primary cause of contagious diseases.\textsuperscript{15} He also regarded the practice of washing in flowing water as contrary to the principles of Islam:

I have repeatedly witnessed that some women wash all their clothes using the drinking water of the neighborhood stream, and even wash infant clothing that is contaminated with excrement. It comes as a surprise that although houses in some neighborhoods are equipped with dedicated washhouses, no attention is paid to the washhouses and they continue their improper habits and pollute the waters. The actions of these women go against the laws of Islam.\textsuperscript{16}

\textsuperscript{14}A‘lam, \textit{Namah-‘i Ahmadi}, 75.  
\textsuperscript{15}A‘lam, \textit{Namah-‘i Ahmadi}, 76.  
\textsuperscript{16}A‘lam, \textit{Namah-‘i Ahmadi}, 76.
Dr. Amir Alam, who was Iran’s representative at the International Sanitary Conference in Paris in 1321/1903, had an important role in mind for the ‘ulama in the state-instated campaign against infectious diseases:

It is time for the leading ‘ulama and the professors of Islam, may God increase their numbers, to repeatedly emphasize the importance of ordinances with regard to the [sanitation of] water, and for the respected regional inspectors to set large fines for those who pollute the drinking waters, to be paid in cash, and they should not hesitate repairing and covering the waterways.”

In his *Islamic Hygiene*, via an examination of the “prohibitions on fermented beverages,” “taharat, immersion [ghusl], and ablution,” and “genital hygiene, circumcision, and their sanitary benefits,” Dr. Alam sought to demonstrate that the “honorable teachings are in congruence with [the most] recent public health principles.” At the conclusion of this book, Dr. Amir Alam called for the collaboration of the ‘ulama with the state for the promotion of public health:

If the holy Shar‘i recommendations and laws of Islam have not fully manifested for the greatness [of the country], it is because there have been deviations in following the holy principles [of Islam]. The [required] material tools and execution [of the principles] have been inadequate. It is time for spiritual leaders and government officials to unite and gather all their forces and influences to encourage people to comply with the holy principles. For its execution, all material tools that are needed should be summoned.

To purge Islam of clerical superstition, the Iranian intelligentsia in the 1920s called for a religious and spiritual revolution (*inqilab-i dini/*inqilab-i rawhani*) which was intended to establish the full concordance of Islam with modernity and science. The Imbrie Affair of July 1924 was indeed

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During this incident Robert Whitney Imbrie, the American vice-consul in Tehran who was accused of poisoning the water of a fountain (saqakhahānāh) which was used to heal the sick and the blind was murdered by the crowd. After this internationally embarrassing incident, for instance, Murtiza Mushfiq Kazimi proposed that Iran needed a “clerical modernity” (tajadud-i akhund).22 A year later Habib Allah Pur-i Riza suggested that what was needed was a “sacred revolution” (inqilāb-i muqaddas).23 Husayn Kazimzadah likewise called for an “intellectual and religious revolution” (inqilāb-i fikri va dini), a revolution for “purging Shi‘ism of superstition and debauchery” [khurafat va izafat].24 In creating a vigorous Iranian civilization, he proposed a synthetic modernity seeking the concordance of “science with religion, materiality with spirituality.”25 Reconfiguring the role of Islam in a new comprehension of modernity, in this scenario “a modern person must be religious, and a religious person must be modern.”26 These ideas clearly informed the endeavors of many employees of Iranian health establishments like Dr. Sorin Tumanians.

Dr. Alam’s efforts to reconcile the principles of taharat “with medical sciences” were continued by Dr. Tumanians in his *Hygiene and the Religion of Islam* (1934/1313). Elaborating on their shared ambitions, Dr. Tumanians explained that by “elaborating the sanitary reasoning behind Islamic ordinances, . . . in reality, [I am] supplementing his efforts and completing his publication.”

On the purpose of writing the *Principles of Hygiene in Islam*, a topic that was widely welcomed amongst Islamic scholars in the later decades, Dr. Tumanians explained: “In the context of modern medical conceptions, our goal is to discuss the terms and ordinances of Islam that relate to hygiene; and from the perspective of public health to propagate them to the extent of our abilities.” He further added that: “It is our intention to explain the medical philosophy of the laws and the hygienic ordinances of the religion of Islam according to contemporary medicine [tib-i imruzah] and in this way to serve the people to the extent of our abilities and to encourage them in the implementation of these laws.” Through the harmonization of medical principles and religious ordinances, Dr. Tumanians believed that “the founder of Islam was well aware of microorganisms, and appreciated the ways that they enter the body; furthermore, he was aware of how the body defends and prevents the spread of microorganisms, so he issued hygiene ordinances which were based on the comprehensive capacity of the people at that time.” Since the people during the lifetime of the prophet Muhammad (d. 632) were totally oblivious to microorganisms and causes of diseases, “thus that great man’s analogy of microorganisms was of animals which were always conceived in the popular imagination in the form of jinns and satan.”

Some Muslim clergymen have often wrongfully interpreted and justified the hygienic sunnah and obligations, and in some instances they have acted against or trampled upon the fundamental concerns and have abandoned these concerns for reasons of convenience. It is for this reason that, in the name of service to our fellow men and countrymen and with the help of God, we discern the hygienic truths of this great

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Upon reviewing public health in the Islamic era, and after a brief discussion of sanitary and microbiological views of Islamic principles, Dr. Tumanians, like his contemporary intelligentsia, criticized the prevailing hygienic interpretations and practices:

They have obliged poor Muslims that ritual ablution is a necessity; not revealing the wisdom behind it, such that this act consequently results in a sanitization of the hands, feet, and face. At least this allows the individual to recognize that his performance is for the purpose of good hygiene and cleanliness; and thus he should be using limpid and clean water and not just any accessible water, such as courtyard basin water where on one side the wife launders the dirty clothes of infants, on the other side the housemaid washes dishes and other material, and he himself utilizes the same water to rinse his body parts.33

Dr. Tumanians believed that “if Muslims realized that the purpose of bathing is cleanliness and good hygiene, they would never step into current public bathhouses. Because, according to Islamic mandates [as mentioned earlier], the water of the bathhouse should be clean and pure enough such that small amounts can be drunk.”34 But this sanitary interpretation of Islamic ordinances, which was based on a microbiological perspective, was inconsistent with the quantitative and qualitative standards of kurr and

Dr. Tumanians, *Hifz al-Sihhah*, 91.

32 Tumanians, *Hifz al-Sihhah*, 4-5.
33 Tumanians, *Hifz al-Sihhah*, 90.
34 Tumanians, *Hifz al-Sihhah*, 91.
“running waters” as explicated in the Shi‘i responsa. Tumanians explained the contrasting superficial and elemental views of water as such:

Despite the fact that most public bathhouses in Iran accommodate fifty to sixty men and women every day, the water of these bathhouses is replaced no more than once a month. [Bathhouses] get stained with the foul matters of more than two thousand people, and out of two thousand individuals, a few hundred will surely get contaminated with skin and sexually transmitted infections, among others. Of course, the above-mentioned diseases that arise from their bodies are transmitted into the water of the public bathhouses, and from there on get transmitted to the bodies of innocent Muslims. But if you tell one of the piously-inflexible shariatists of the religion of Islam that a certain individual does not enter the bathhouse because he considers the water of the hammam filthy and impure and he believes that the water basin of the hammam should be shut down and must be replaced with showers and must avoid immersion in filthy water, he will immediately consider the person as an apostate. . . .

In the decades that followed the Iranian Constitutional Revolution, D. Tumanians, along with many of his colleagues, believed that there was a direct relationship between public health and political power. Although he considered taharat ordinances to be an adequate basis to teach sanitary etiquette, he argued that: “the majority of recent religious leaders were the greatest barrier to progress, and the most tenacious impediment to the popular comprehension of the truth behind Sharia rulings . . .” He presumed that if “the ordinances and brilliant philosophies” of Islam were told in a simpler language by the ‘ulama, “the followers of this religion would have never had any spiritual or physical fragility, and as a result weakness and deterioration would not have occurred in political institutions.” Although Tumanians condemned the ‘ulama, he believed that the nation’s barriers to “advancement and awareness” would diminish with public education: “[I] hope that the vast majority of people become knowledgeable and wise in the near future, such that the hygienic ordinances of the righteous religion of Islam become truly realized and successfully exercised.”

35Tumanians, Hifz al-Sihhah, 91.
36Tumanians, Hifz al-Sihhah, 94.
37Tumanians, Hifz al-Sihhah, 94.
By transforming jinns into germs, Tumanians sought to convince the readers of his *Hygiene in the Religion of Islam* (*Hifz al-Saihah dar Din-i Islam*) that the founder of Islam was fully aware of microbes and had introduced hygienic rules that corresponded to the knowledge base of the late Jahiliyah age.

In their attempt to promote public hygiene, physicians like Amir Alam and Tumanians, and not the mujtahids, initiated the re-grounding of Islam in the microbiological paradigm and promoted the concordance of religion and science (taqarun-i danish va din). But invigorated by the efforts of the state functionaries and intellectuals who had asserted Islam’s full concord with reason and science, the Iranian mujtahids in the 1940s began a campaign for the assertion of religious values in the public sphere. Crafted and enhanced by intellectuals who wanted to promote moral modernity in Iran, the concordance of religion and science and the feasibility of joining religiosity and modernity became the guiding principle of Persian journals such as Ayin-i Islam, Dunya-yi Islam, Parcham Islam, Nur-i Danish, Furugh-i Ilm, and others. With the intensification of the early Cold War in Iran, these religious journals and their associated sodalities began a process of Islamizing the public sphere. Whereas the Constitutionalists had medicalized the national body by viewing Iran as a mother, these Islamic journals and political activists began a process of medicalizing the “body social” (hay’at-i ijtima’i). In the Islamist discourse that emerged, rapid urbanization and the development of an urban public culture around theaters, cinemas, cafes, and cabarets, as well as the mixing of men and women in public, were diagnosed as “social ills” (bimari-ha-yi ijtima’i), “social pains” (dard ha-yi ijtima’i), and “social corruption” (fisad-i ijtima’i). While on the eve of the 1905 Constitutional Revolution, the microbiological revolution contributed to an epistemological crisis in Islamic jurisprudence, by utilizing the Pasteurian paradigm in the 1940s and beyond, the Shi’a clerics constituted irreligiosity as a Western-inflicted disease that pervaded the rapidly changing body social. Whereas in the decades after the Constitutional Revolution the medical specialists viewed the religiously pure water of basins (havz) and public baths (khazanah) as the source of contagious diseases, the “spiritual physicians” (hukama-yi ruhani) of the 1940s and beyond targeted the cinema, theater, and dancing halls as the cesspools of moral and spiritual infections. With deadly microbes transmitted from Europe, “religious inoculation” (ampul-i tadayyun) was viewed as the cure for the moral and spiritual illnesses of a decaying social body. This inaugurated the full Pasteurization of Islam.

38 Tumanians, Hifz al-Sihhah, 96.

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