JOURNAL OF WORLD-SYSTEMS RESEARCH

ISSN: 1076-156X | Vol. 31 Issue 1 | DOI 10.5195/JWSR.2025.1325 | jwsr.pitt.edu

Sixth Century Global Climatic Disaster, the Origins of Islam, and its World-System Consequences

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Abstract

We suggest viewing the origins of Islam against the background of the sixth century global climatic disaster and the Arabian socio-ecological crisis that was one of its parts. Most socio-political systems of the Arabs reacted to the socio-ecological crisis by getting rid of the rigid supra-tribal political structures (kingdoms and chiefdoms) which started posing a real threat to their very survival. The decades of fighting which led to the destruction of most of the Arabian kingdoms and chiefdoms led to the elaboration of some definite "anti-royal" freedom-loving tribal ethos. At the beginning of the seventh century tribes which would recognize themselves as subjects of some terrestrial supra-tribal political authority, the "king," risked losing its honor. However, this seems not to be applicable to the authority of another type, the "celestial" one. In the meantime the early seventh century evidences the merging of the Arabian tradition of prophecy and the Arabian Monotheist "Rahmanist" tradition which produced the Arabian prophetic movement. The Monotheist Rahmanist prophets appear to have represented a supra-tribal authority just of the type many Arab tribes were looking for at this very time, which seems to explain to a certain extent those prophets' political success (including the extreme political success of Muhammad). The sixth century global climatic disaster influenced the world-systems development mainly through one of its logical outcomes, the formation of Islam and the formation of a colossal Islamic communication network reproduced through an annual pilgrimage to Mecca.

Keywords: Climatic Disasters, Volcanic Activity, World-Systems Development, Pilgrimage, Tribal Systems

The theory of the origin of Islam that was dominant in the Soviet Union until the 1980s linked it with the disintegration of the clan-tribal systems in Arabia in the sixth and early seventh centuries, with the processes of class and state formation (Tolstov 1932; Smirnov 1954; Belyaev 1965; Petrushevsky 1966; Mavlyutov 1974; Zhukov 1974; Filshtinsky 1977; Negrya 1981).

However, well-known facts clearly show that the actual evolutionary processes in Arabia in the sixth and early seventh centuries were going in exactly the opposite direction. The clan-tribal organization in pre-Islamic Arabia did not decay but was becoming stronger and stronger. It was the state and proto-state structures that were disintegrating.

Indeed, in the early sixth century, almost the entire territory of Arabia was controlled by several kingdoms: the Himyarite Kingdom of Yemen (which dominated not only the entire Arabian South, but also a noticeable part of Central Arabia); the Second Kindite Kingdom (a vassal of the Himyarites), which controlled most of Central Arabia; the Lakhmid Kingdom in the Arabian Northeast (which also controlled a significant part of Northern and Central Arabia and depended in turn on the Sassanian Empire); and the Ghassanid kingdom in the northwest of Arabia (which in turn depended on the Byzantine Empire). Moreover, even in territory outside the direct control of these kingdoms, we would usually find not tribes proper, but rather chiefdoms. Their heads often explicitly called themselves "kings" (*mulūk*) (Nöldeke 1879, 1888; Rothstein 1899; Olinder 1927; Negrya 1981; Hoyland 2002; Korotayev 2003; Robin 2009, 2015; Toral-Niehoff 2013; Lapidus 2014).

The situation in the early seventh century, during the years of the beginning of the prophetic activity of Muhammad, differed from the one described above in the most radical way. All of the great Arabian kingdoms mentioned above disappeared along with the smaller chiefdoms. There were practically no "kings" left in all of Arabia, and where there had been chiefdoms a century before, there were instead free tribes (Simon 1989; Negrya 1981; Peters 1994; Bolshakov 2002; Lapidus 2014; Von Grunebaum 2017).

What were the causes of the sixth century Arabian crisis? According to paleoclimatology, the sixth century saw global climate change associated with peak tectonic and volcanic activity around the world. The main role here was played not by earthquakes, but by another consequence of seismic activity—volcanic eruptions. At the same time, a truly important role was played by volcanic gases, ash, and aerosols that were released into the atmosphere in gigantic quantities during volcanic eruptions and partially delayed solar radiation, which in turn led to the cooling of the lower layers of the atmosphere. In the climatic conditions of Arabia, the latter circumstance (somewhat counterintuitively) caused droughts. For the 530s and 540s, we have ample evidence of famine years caused by catastrophic droughts (e.g., Stothers 1984; Klimenko and Klimanov 1996; Klimenko 1997, 2000; Korotayev, et al. 1999; Kennet 2005; Harper 2013; Büntgen, et al. 2016; Helama, et al. 2018; Jacobson 2022).[1]

[1] Some parts of Arabia started experiencing unusually severe droughts even earlier (Fleitmann, et al. 2022).

At the "ground level," climatic changes caused by the peak of volcanic activity associated with the 536 catastrophic explosions of volcanos (most likely in North America) were described in a contemporary account in Mesopotamia as follows:

> The Sun was dark and its darkness lasted for eighteen months; each day it shone for about four hours, and still this light was only a feeble shadow.... The fruits did not ripen and the wine tasted like sour grapes. (from Bar-Hebraeus "Chronography", see Stothers 1984: 344)

As Ulf Büntgen (2016: 231) and colleagues note,

> …we find an unprecedented, long-lasting and spatially synchronized cooling following a cluster of large volcanic eruptions in 536, 540 and 547 CE, which was probably sustained by ocean and sea-ice feedbacks, as well as a solar minimum. We thus identify the interval from 536 to about 660 CE as the Late Antique Little Ice Age. Spanning most of the Northern Hemisphere, we suggest that this cold phase be considered as an additional environmental factor contributing to the establishment of the Justinian plague, transformation of the eastern Roman Empire and collapse of the Sasanian Empire, movements out of the Asian steppe and Arabian Peninsula, spread of Slavic-speaking peoples, and political upheavals in China.

The reconstruction of the political adaptation of the Arabs to the sixth century global climatic disaster is possible through the study of the pre-Islamic Arab historical tradition, the so-called *Ayyām al-`Arab* ("The days of the Arabs") (see, e.g., Ibn al-Athīr 1867; al-Mawlā-bik, et al. 1942; Ibn `Abd Rabbi-hi 1949–1965; al-Iṣfahānī 1955–1964).

And one of the typical "days" can be retold as follows: a certain Arabian chief or "king" behaved arrogantly towards his subjects and oppressed them. This behavior often consisted of attempts to collect taxes in years of famine (caused primarily by insufficient rainfall). A typical reaction to such behavior was the murder of their chief/"king" by his subjects, which naturally entailed attempts by the chief's relatives to avenge his murder (and, in fact, to restore the fractured chiefdom). As a result, another Arab "day" began, which could last for years filled with violent actions on both sides. As examples one may mention "the Day of Ḥujr" (Ibn al-Athīr 1867; al- al-Mawlā-bik, et al. 1942; Iṣfahānī, 1955–1964; etc.), "the Day of al-Nafrawāt" (Ibn al-Athīr 1867; al-Mawlā-bik, et al. 1942; Ibn `Abdi-Rabbi-hi 1949–1965; al-Iṣfahānī 1955–1964; etc.), or "the Day of Khazāz" in Yāqūt's edition [1410] 1990). Here, a rather relevant piece of evidence is also represented by the biography of the famous pre-Islamic poet `Amr b. al-Kalthūm (e.g., al-Iṣfahānī, 1955–1964) who himself took an active part in the struggle of his tribe against the Lakhmid kingdom, a struggle which apparently contributed to the disintegration of this political entity (about the struggle of Arab tribes against the Ghassanid kings, see, e.g., Negrya, 1981: 36–37). In any case, in the end we see, as a rule, the kingdom or chiefdom disintegrated, and free tribes already appear in its place.

In fact, all this can be seen as an important component of the Arab adaptation to the socio-ecological crisis of the sixth century. This rather effective adaptation was basically that most of the socio-political systems of Northern and Central Arabia quite adequately responded to this crisis

by rejecting supra-tribal political structures (i.e., most of the Arabian "kings," political leaders of the chiefdoms, and agents of their power), which began to pose a real threat to the basic survival of ordinary members of the Arabian tribes.

However, the Arabs did not simply destroy most of these rigid supra-communal political structures that alienated tribal sovereignty. They also developed alternative "soft" structures of supra-tribal cultural and political integration that did not pose a threat to tribal sovereignty. The most notable thing here seems to be the development of a system of sacred enclaves and regular pilgrimages to them, accompanied by fairs (*mawāsim*).

As a result, we can observe here the development of highly effective inter-societal communication networks, of which the best known is the communication network identical to the Western Arabian religious-political area. Apparently, it was formed as a result of the expansion of the zones of influence of the corresponding sanctuaries—Majannah, dhū-'l-Majāz, `Ukāẓ, and Mecca[2]—and their integration into a single religious and political area.

This was primarily a religious area, but it also had obvious political dimensions. It was during the pilgrimage-fairs (*mawāsim*) to the sanctuaries mentioned above

> …that traditional tribal society established its manifold contacts, the exchange of the religious and cultural ideas, as well as the barter of products with only use-value. Furthermore, the various legal problems (armistice, debts, benefits, payment of blood-money, bailing out of prisoners, finding of clients, looking for disappeared persons, questions of heritage, etc.) of the participants were also settled there. This exchange of ideas and goods, as well as the spreading of legal customs and cults common to several tribes, that is, regular social contact in general, played no negligible role in the extension of tribal consciousness. (Simon 1989: 90; see also Wellhausen [1897] 1961)

As a result, we can observe the emergence of a certain political area, more or less correlated with the religious one, an area where not only religious, but also many political and cultural norms were common; where people consistently avoided attacking travelers during the four "holy months" (*ašhur ḥurum*) and considered the same parts of the year as "holy months," where representatives of different tribes went to the same places to resolve intertribal conflicts, observing the same rules of mediation, and so on. Quite remarkable here is the fact of the complete absence of serious intertribal clashes in the "area of the four sanctuaries" between the completion of its formation (i.e., the Ḥarb al-Fijār war in the late sixth century) and the beginning of clashes with the Muslims.

Although some pre-Islamic Arabian tribes managed to adapt to the crisis quite effectively, this adaptation was not universally perfect. One may say that the adaptation of the Arab tribes of the Mecca region turned out to be quite successful (and this is largely why Muhammad did not find enough space to develop his prophetic activity there).

[2] To this list, of course, one can add `Arafah and Minā separately from Mecca; but they can also be considered as part of the Meccan Ḥaram.

But it apparently was not so successful, for example, on the periphery of this area, in Yathrib (a city currently known in the world as Medina), where several tribes, in the absence of any effective supra-tribal power, could not quite sort out relations among themselves (see, e.g., Watt 1956; Peters 1994; Bolshakov 2002; Lapidus 2014; Rubin 2022).

This problem was by no means new to Arabia. And in the late fifth to early sixth century, the typical ways to solve it were quite obvious—to send envoys to one of the Great Kings of Arabia and ask him to appoint a "king" over the corresponding group of tribes, which thus essentially turned into a chiefdom (see, e.g., Korotayev, et al. 1999).

But this practice apparently became unacceptable in the seventh century. Decades of uprisings, clashes, and other violent events that led to the destruction of most of the Arabian kingdoms and chiefdoms appear to have led to the development among the Arabs of a certain freedom-loving "anti-royal" ethos, codified in tribal historical traditions and poetry.

A reflection of this ethos can be found in the Koran, which contains an *āyah* (XXVII/34), which we reproduce below:

كولملا اذإ اولخد ةيرق اهودسفأ اولعجو ةزعأ اهلهأ ةلذأ

كلذكو نولعفي

al-mulūk^{u} *idhā dakhalū qaryat*^{an} *afsadū-hā wa-ja`alū a`izzat*^{a} *ahli-hā adhillat*^{an} *wa-ka-dhālika yaf`alūn* (Kings, when they enter a village, they corrupt it, they turn its most worthy inhabitants into the lowest, that's exactly what they do)

All this constitutes a striking contrast to the situation a century before, when the Arabs themselves asked for kings to be appointed over them, and most Arabs in one way or another recognized the authority of one or another king. In any case, in the early seventh century, a tribe that recognized itself as subordinate to any earthly supra-tribal political power, the "king," risked losing its honor, its face.

However, this did not seem to apply to another type of power, the "heavenly" power. Historical facts indicate that if for most Arab tribes becoming subjects of earthly kings was unacceptable and was tantamount to a complete loss of honor, the recognition of some "heavenly" power (naturally, through its earthly representative) turned out to be quite acceptable.

Here it is necessary to consider one more group of facts. Pre-Islamic Arabia was quite familiar with the figure of a "prophet" (*kāhin*) (see, e.g., al-Mas`ūdī 2005; Fahd 1966; Ibn Khaldūn [1415] 1958; etc.). In any case, the average Arab apparently knew well what "prophets" looked like, what a prophetic trance was, and so on.

However, until the seventh century, the Arabian prophets were prophets of pagan deities. Thus, their power was by no means optimal. The point is that recognition of the power of such a prophet automatically meant recognition of the power of the corresponding pagan deity, whereas

the cults of such deities were always tied to certain tribes, whose patrons the corresponding deities were. Therefore, recognition of the power of a given deity actually meant recognition of the power (or primacy) of the corresponding tribe (which is confirmed by South Arabian epigraphy [see, e.g., Korotayev 1994, 2003).

Thus, the optimal figure here could be a monotheistic prophet. However, the prophets of the old monotheistic religions also did not fully fit here, since recognition of their power would also mean recognition of dependence on the corresponding extra-Arabian powers; and in the case of Judaism, this would put in a more advantageous position those Arabian tribes that had since long-ago professed Judaism.

At the same time, in pre-Islamic Arabia there was an autochthonous monotheistic tradition ("Raḥmanism" / *al-Ḥanīfyyah*) (see, e.g., Korotayev, et al. 2007). However, its North Arabian bearers (*Ḥanīf*s) apparently did not produce prophets until the seventh century. Yet, in the early seventh century, the Arabian prophetic tradition and the Arabian monotheistic Raḥmanite-Ḥanīfi tradition apparently merged, producing what Mikhail Piotrovsky called the "Arabian prophetic movement" (Piotrovsky 1984).

It must be considered that, along with Muhammad, at least five other monotheistic prophets ("false prophets" from the point of view of Muslims) acted in Arabia during his era. Beside one Judaic prophet in Yathrib (Ibn Ṣayyaād) and a para-Christian prophetess, Sajāḥ, three others—al-Musaylimah, al-Aswad and Ṭulayḥah b. Khuwaylid—seem to have belonged to the Arabian "Raḥmanist" tradition. The Monotheist Raḥmanist prophets appear to have represented a super-tribal authority just of the type many Arab tribes were looking for at this very time. It is worth noting that *all* of the Arabian Rahmanist prophets of the seventh century achieved significant political success in their respective areas of Arabia—al-Musaylimah in al-Yamāmah (e.g., al-Ṭabarī 1964), Ṭulayḥah in Central Arabia (e.g., al- Ṭabarī 1964), al-Aswad in Yemen (e.g., al-Ṭabarī 1964); though the political success of Sajāḥ in the Arabian extreme Northeast (e.g., al-Ṭabarī 1964) also appear relevant in this respect. All of them managed to bring under their control the tribes of vast regions of Arabia, whose territory was many times larger than the area of the average Arabian chiefdom, and comparable in size to the Arabian kingdoms. The success of the Rahmanist "false prophets", of course, is not comparable to the political achievements of Muhammad (Bolshakov, 2002; Lapidus, 2014; Peters, 1994; Rubin, 2022; Watt, 1956), but it was still a highly significant success, the like of which was not achieved by any of the Arabian secular political leaders during this period.

And this seems to show that in seventh century Arabia such political success could have been achieved by a Rahmanist prophet rather than by a "king."

The data presented suggest that the emergence of Islam can be considered as a completely logical consequence of the Arabian processes of adaptation to the sixth century global climatic disaster in the context of the developing autochthonous Arabian traditions of prophecy and monotheism. That is, this adaptation was not the cause of the emergence of Islam but rather created in many areas of the Arabian Peninsula a socio-political environment most suitable for the

development of an autochthonous Arabian monotheistic religion (at the same time, the spiritual prerequisites for its occurrence apparently already existed at the time the crisis began).

From the above it should already be clear that, from our point of view, the Arabian adaptation to the sixth century global climatic disaster had its influence on the development of our world-system primarily through one of its logical consequences, the emergence of Islam. Indeed, it seems possible to show that Islamic civilization incorporated many of the important patterns, structures, and values developed by the Arabs during this adaptation.

One of the most obvious points here is the system of pilgrimages of a typically Arabian type. Of course, Arabian pilgrimage practices began long before the sixth century. They are much older. As a matter of fact, they are already attested in the earliest Arabian written monuments (for example, in the ancient Sabaic epigraphy [see, e.g., Korotayev 1994, 2003]). However, it was in the sixth century Western Arabia where an extremely effective intersocietal communication network arose, based to a high degree on improved pilgrimage practices, a network that acted as an advanced alternative to the rigid supra-tribal political structures destroyed by the Arabs during their adaptation to the crisis of the sixth century.

Islam was initially accepted and spread by people who grew up in the context of the Western Arabian intersocietal communication network, within which pilgrimage practices played a structure-forming role. Of course, pilgrimage (*al-ḥajj*) was prescribed by the Quran; but not all such regulations and prohibitions were observed by the Arabs to the same extent.[3] The pilgrimage order was observed so consistently and effectively largely because its necessity was self-evident to the Arabs. In any case, the creation of the Islamic pilgrimage system had important consequences for the evolution of our world-system.

It is necessary to consider the fact that the pre-Islamic Western Arabian system of pilgrimage (from which the corresponding Islamic system developed) was perfectly adapted to serve as an integrating mechanism for an intersocietal communication network with a lack of political unity. It is hardly a coincidence that the Islamic pilgrimage system turned out to have the same qualities. Of course, for the first 150 years of the Islamic era, the Islamic pilgrimage zone coincided with the territory controlled by the Islamic polity. However, after the collapse of the latter, this system began to work exactly like its pre-Islamic Arabian counterparts, which served as an important integrative mechanism for a politically noncentralized intersocietal communication network.

Thus, it can be assumed that one of the significant world-system consequences of Arabian adaptation to the sixth century global climatic disaster was the formation of an important mechanism that ensured the integration of a gigantic intersocietal network covering many central (as well as peripheral) areas of the Afroeurasian world-system, a mechanism that ensured the commonality of some significant patterns, values, and practices on a gigantic territory, an annual meeting of representatives of all societies participating in the network in one place, exchange of information between them, constant reintegration of the network, and so on.

[3] Notable here is Islam's strict prohibition of drinking wine (a drink quite popular in pre-Islamic Arabia; see, for example, Maraqten [1993]), which was not applied as systematically and consistently, as evidenced by the gigantic corpus of medieval Arabic "wine poetry" (*khamriyyāt*).

And a final remark: in the modern age the Islamic communication network has become truly global. Hence, it appears possible to say that the Islamic civilization has realized to a considerable extent its globalizing potential. Thus, one wonders if it is justified to view modern globalization as something created by Western civilization only. One wonders if it would not be more appropriate to say that the modern world-system was shaped by globalizing potentials of more than one civilization and treat the modern world-system as a set of interacting global communication networks only some of which were created by the West.

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Acknowledgement: This article is an output of a research project implemented as part of the Basic Research Program at the HSE University in 2025.

Disclosure Statement: Any conflicts of interest are reported in the acknowledgments section of the article's text. Otherwise, authors have indicated that they have no conflict of interests upon submission of the article to the journal.

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