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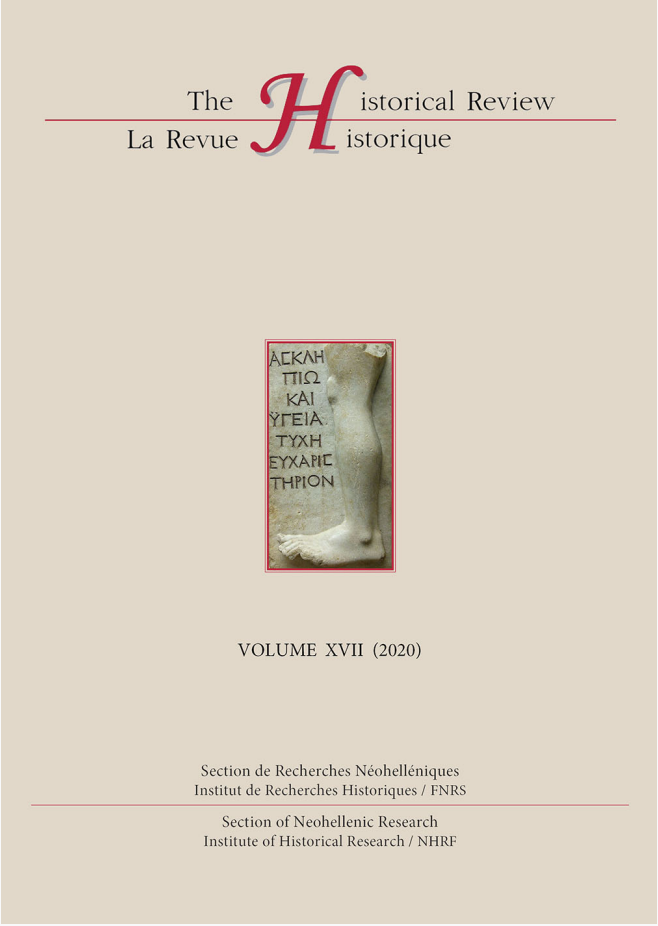

Alternative Facts, Alternative Sciences: The Development of the Concept in Medieval Islam and Its Historical Consequences

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ALTERNATIVE FACTS, ALTERNATIVE SCIENCES: THE DEVELOPMENT OF THE CONCEPT IN MEDIEVAL ISLAM AND ITS HISTORICAL CONSEQUENCES

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Abstract: The perception of reality, and of what is real and what false, as unproblematic and self-evident in stable societies hides the fact that reality as perceived by members of a society is socially and politically generated. The generation through political fiat of an alternative reality presented as alternative facts in the Unites States during the Trump administration, and the astounding espousal of that alternative reality by nearly half of the population, is a striking demonstration of this fact. In this paper, the development in medieval Islam of the concept of alternative facts as alternative scientific reality is traced to the historical developments in the Middle East in the eleventh and twelfth centuries, with an account of their consequences which persist to the present day.

> "Alternative facts" was a phrase used by U.S. Counselor to the President Kellyanne Conway during a *Meet the Press* interview on January 22, 2017, in which she defended White House Press Secretary Sean Spicer's false statement about the attendance numbers of Donald Trump's inauguration as President of the United States. When pressed during the interview with [NBC journalist] Chuck Todd to explain why Spicer would "utter a provable falsehood", Conway stated that Spicer was giving "alternative facts". Todd responded, "Look, alternative facts are not facts. They're falsehoods."[1]

I don't know whether Conway was aware of the broader significance of what she had just said, beyond its immediate purpose to justify and render true Spicer's

[*] This is a redacted version of the Dimaras lecture presented at the Institute of Historical Research on 4 December 2019, upon the kind invitation of its Director, Dr Maria-Christina Chatziioannou, and coordinated by Dr Niketas Siniossoglou, for which I am deeply grateful. The actual lecture itself can be viewed at https://www.blod.gr/lectures/alternative-facts-alternative-sciences-the-development-of-the-concept-in-medieval-islam-and-its-historical-consequences/. The entire and lengthy text of my argument with full documentation can be read in my article "Avicenna and After: The Development of Paraphilosophy. A History of Science Approach," in Islamic Philosophy from the 12th to the 14th Century, ed. Abdelkader Al Ghouz (Göttingen: V&R Unipress/Bonn University Press, 2018), 19–71. I have accordingly kept the references in this version to the complementary minimum.

[1] Wikipedia contributors, "Alternative facts," Wikipedia, https://en.wikipedia.org/w/index.php?title=Alternative_facts&oldid=987270064 (accessed 9 November 2020).

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false statement, but it became patently clear to me, after a moment of puzzlement at the illogicality of the response, that she had expressed in a nutshell that the perception of reality, facts and logic aside, is socially and politically generated. This is even more obvious especially now, after four more years of a stream of alternative facts presented by President Trump, that their acceptance rate as reality has reached 40 percent of the American public and elevated him to the status of a cult figure.[2] Aristotle's insightful statement that man is a social animal (*ζῷον πολιτικόν*) was not specifically referring to the social construction of reality, but it is just as true in this respect also. There is a reality out there without humans, but it is knowable when a human being perceives it, in which case his perception of reality *is* his reality. And his perception is directed, coached and coloured by the dominant world view and outlook on life that is current, adopted or imposed in his society. If this is a historical truism, it is extraordinary that we witness its coming into play, through sheer political fiat, in real time and in slow motion in our society.

From this vantage point it could be seen that the history of science – and perhaps more broadly, the history of civilisation – consists of the conflict for dominance and acceptance as *the* reality among alternative facts. In a traditional society in which a mythological view of reality is dominant, at one point alternative facts about some aspects of it are presented by some individuals whom we may call scientists engaged in rational investigation of reality. These alternative, scientific facts may or may not be accepted by society, depending on whether this alternative vision of reality they describe impinges negatively on some group's or class's interests. An example from Trump's America would be climate change, established and verified by the overwhelming majority of the world's scientists, which is not accepted as fact by the administration, promoting the interests of the fossil fuel industry. And so it goes, alternative fact after alternative fact. Some of the scientific facts eventually get universally accepted as reality – the earth is not flat and our solar system is not geocentric, after all – but this is a very gradual progress, achieved after protracted social struggles and with many backtrackings. The vested interests in the maintenance of a traditional or mythological perception of reality have strong political control of the direction of a society and are not easily countered or eliminated. In most, if not all, of the cases, when it is not feasible to reject scientific facts outright, they are opposed

[2] The incredible and unnatural denial of self-preservation exhibited by Trump's followers facing certain infection with Covid-19 as they thronged, unprotected, in mass rallies upon his summons, bears resemblance to the same denial by the followers of the American preacher Jim Jones when they ingested poison-laced punch upon his orders in a mass suicide in Jonestown, Guyana, on 18 November 1978.

by means of discursive strategies that declare them dangerous or subversive and render them suppositious and hypothetical rather than absolute facts; they are allowed a shadowy or ambiguous existence but not to be actually operative in the society concerned. A pertinent example is precisely such discursive tactics used by the Catholic Church to disqualify from reality the heliocentric theory of Copernicus and Galileo. In an unsigned preface to Copernicus's *De revolutionibus*, the theologian Andreas Osiander wrote:

> To say that the *supposition* of a moving Earth and a stationary Sun saves the phenomena … is apt indeed and in no way dangerous – and that's enough for mathematics. But to claim that the Sun is *in reality* the centre of the universe … that is very dangerous, not only as an irritant to the scholastic philosophers and theologians but also because it undermines Holy Faith by imputing error to Sacred Scripture.[3]

The alternative scientific fact was relegated to the realm of supposition, whereas the mythological reality of the church maintained itself, with its imposition on the population, for quite some time longer until it was no more viable.

Such developments can be traced throughout history in societies around the world, and their specific study allows for a deeper understanding of the historical process and the causes that direct societies on particular paths by determining what they know as reality, and influence the advancement of science. In this essay I wish to have a closer look at the emergence of alternative mythological facts as reality, and eventually as alternative sciences, in medieval Islam, and the discursive tactics that were used to maintain their dominance over society.

The immediate backdrop to the rise and development of a scientific outlook on reality in the Islamic world is the Hellenic scientific tradition. It developed in classical Greece out of the traditional mythological view of reality as a result of the efforts by generations of scientists to discover, argue for and establish scientific facts.[4] In this process, it set itself up not in antagonism towards it

[3] In Galileo Galilei, *Le opera di Galileo Galilei*, ed. Antonio Favaro (Florence: G. Barbara, 1902), 12:171–72, cited by Carlo Ginzburg, "Machiavelli, Galileo and the Censors," *New Left Review* 123 (2020): 98, emphasis added.

[4] For the purposes of this discussion there is no need to raise the issue of what science is in different times and different societies; the common, dictionary understanding of the term will suffice. I will be also referring to what we call thinkers, philosophers and scientists in antiquity and the Middle Ages merely as scientists. The distinction between a philosopher and a scientist is a modern concept that does not apply to premodern times. A philosopher was the person who conducted rational and open-ended investigation into reality, and treated all the subjects, from metaphysics to physics, psychology, zoology, ethics and politics and

but perhaps initially as complementary to, and eventually as inclusive of, the traditional, mythological and religious view, treating it as a phenomenon to be explicated allegorically or in some other way. Thus, although it did represent a radical shift in outlook – from *mythos* to *logos* – it did not create a rupture in Hellenic epistemological consciousness, as the traditional beliefs accommodated to and interwove themselves with it. The Hellenic view and the discourse that expressed it became dominant in the Hellenistic age after Alexander the Great (323–30 BC), and beyond into the first Christian centuries, not only in the Greek-speaking world but also in the eastern Mediterranean and the Near East. It spread among the educated elites without noteworthy resistance from traditional forms of belief and the proponents of the Greco-Roman mythological world view. This is true even for the non-Greek-speaking populations in these areas, whose elite, educated in Greek, participated in scientific activities in Greek.

The emergence of Christianity as a social force and the official religion of the Roman Empire in the fourth century proclaimed and championed the mythological approach to reality in a form more vehement than anything that Hellenic traditional forms of belief could produce. The defining characteristic of late antiquity, certainly from the viewpoint of the outlook on reality and accordingly the history of science, was the conflict between Hellenism and Christianity, what was regarded as facts by the one and by the other. The ensuing defeat of the former, brought about by sheer political pressure that was exerted by social, administrative and violent means, constructed an alternative reality. Truth, or true facts, was no longer what was discovered at the end of open-ended inquiry into reality by rational, logical and mathematical means, but what was encoded and asserted to have been revealed once and for all in a book, the alternative facts of the mythological narrative of the Bible. Nevertheless, despite the eclipse of the Hellenic scientific outlook in the Greek-speaking population in the Eastern Roman Empire, the foothold that it had gained in the allophone societies in the Near East resulted in the translation of the scientific literature, however partially, into Syriac and Middle Persian, thereby acknowledging its international validity.

Islam arose in the seventh century within this context. As the new kids on the international block, it was advantageous to the Muslim rulers, especially after the Abbasid dynasty came into power following the revolution in 750, to adopt the body of knowledge of their time, Hellenic science. For many reasons

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literature, etc. This was the understanding of philosophy, and self-understanding of philosophers, in antiquity and the Middle Ages.

that I have discussed elsewhere, the scientific literature was translated.[5] Among these reasons, I could briefly cite primarily the development of a climate of rationalism among the elites that was both politically advantageous and conducive to scientific research, something that was not the case with the Roman Orthodox across the Islamic frontier, and to a lesser extent with the Christian Syriac communities inside it, but was rather akin to what we can estimate to have been the climate fostered by the last Sasanian emperors of Persia.

On its basis it was possible and politically feasible for the Muslim scientists under the early Abbasids to engage in scientific research; the mythological narrative of Islam at that point was not brought into play at the level of confrontation with scientific reality – if anything, its foremost doctrinal position, the oneness of Allah, was seen to be demonstrated rationally in the two welcomed disciplines of metaphysics and physics. The attitude to scientific research and its methodology are clearly expressed in this passage by the great scientist and theorist of optics Ibn-al-Haytham (d. after 1040), in a book in which he delineates his objections to some of the theories of Ptolemy, the authoritative ancient astronomer:

> The seeker after the truth is … not he who studies the writings of the ancients and, following his natural disposition, puts his trust in them, but rather the one who suspects his faith in them and questions what he gathers from them, the one who submits to argument and demonstration, and not to the sayings of a human being whose nature is fraught with all kinds of imperfection and deficiency. It is thus the duty of the man who studies the writings of scientists, if learning the truth is his goal, to make himself an adversary of all that he reads, and, applying his mind to the core and margins of its content, attack it from every side. He should also suspect himself as he performs his critical examination of it, so that he may avoid falling into either prejudice or leniency. If he follows this path the truths will be revealed to him, and whatever shortcomings or uncertainties may exist in the discourse of those who came before him will become manifest.[6]

Avicenna (d. 1037) represents the culmination of this approach. He improved and corrected the Hellenic science in many areas, adopted an empiricist approach to knowledge and completely accommodated religion to scientific

[5] Dimitri Gutas, *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early 'Abbasaid Society (2nd–4th/8th–10th Centuries)* (London: Routledge, 1998).

[6] In the introduction to his *Doubts on Ptolemy*, translated by A.I. Sabra, *The Optics of Ibn al-Haytham: Books I–III. On Direct Vision* (London: Warburg Institute, 1989), 2:3.

truth by explaining it, and not merely explaining it away, in symbolic and allegorical terms. He made no concessions whatsoever to the Islamic mythological narrative, explaining everything by constant reference to scientific positions in natural science. Avicenna's achievement in historical terms is that he presented an entire, integrated, self-consistent and rational view of all reality, based on the science of his day and his own research, which incorporated and explained, but also respected, religions, revelation and the Islamic tradition. This is what made it immensely successful and irresistible, but at the same time it potentially set itself up, and eventually was set up by others having specific political agendas, as the opposite and contradictory world view to that presented by the Islamic mythological narrative.

Soon after Avicenna's death, the political situation in central Iraq became precarious as the Fatimid (anti-) caliphs in Cairo, who belonged to the Ismaili branch of Shiism, had gained strength and were set to advance to Baghdad, the seat of the Sunni caliphate, and capture the caliph. The incoming of the Turkic Seljuks into Mesopotamia at the time, and the support of the caliphate by some of their factions, averted the immediate danger, but the Ismailis had infiltrated the area and continued to present a serious threat to the caliphate through low-level (asymmetrical, as we would say today) warfare and political assassinations, notably of the vizier of the Seljuks, Nizamulmulk, in 1092. (The term assassin of course comes from the name given to these very Ismailis in Syria, Arabic *ḥaššāšīn*, hashish users.)

The Ismaili Shiite version of Islam consisted of an elaborate amalgam of Islamic tenets with Neoplatonic theories of cosmology and psychology aiming "at establishing a harmony between the Quran and the late antique interpretation of Plato and Aristotle".[7] From the very beginning of the Fatimid state in Egypt, the Ismailis sought to advance their cause by sending missionaries to the Sunni world to propagate their specific brand of Islam and gain adherents. They penetrated the entire Muslim world and had reached central Asia; Avicenna himself reports in his autobiography that an Ismaili missionary had visited their home in Bukhara when he was a child and was discussing with his father and older brother about the soul and the intellect (though he records that even at that early age he would not accept their views). The Ismailis were using religious ideology as their main weapon, and so the Baghdad caliphate countered their ideological and, by the end of the eleventh century, political threat by establishing in unwavering terms the Sunni principles of Islam. This consisted in the

[7] Daniel De Smet, "Ismaili Thinkers of the 4th/10th and the early 5th/11th Century," in *Philosophy in the Islamic World*, ed. Ulrich Rudolph, Rotraud Hansberger and Peter Adamson (Leiden: Brill, 2017), 1:737.

affirmation of the literal validity of the Quran and the Prophetic tradition and condemnation of scientific ideas that could be used in their interpretation, as the Ismailis were presented as doing. In the process, the scientists were equated with the Ismailis, and some of their views, as synthesised by Avicenna, were anathematised as heretical. In other words, the mythological narrative of the Quran was imposed as alternative facts to scientific facts.

This constituted the major ideological conflict in Islamic societies in the East after Avicenna, and the ensuing intellectual history is largely a record of the ways in which this conflict played itself out. The contest in the various reactions to Avicenna was between the defence of the scientific view of reality as presented in his work, on the one hand, and the attempts against science aiming to rehabilitate, endorse and enforce the literal validity of the Quranic mythological narrative, on the other. These antiscientific endeavours and the positions they took evolved and developed gradually over the following few centuries and were pursued with impressive sophistication and expertise. The most significant of them are the following.

The very first and most important antiscientific step that was taken by all reactionary factions was in the epistemological domain. It aimed to reject the primacy, indeed the unique relevance, of reason in science, and postulate, or rather assert as fact, an extra- or suprarational means of acquiring knowledge that was variously described as illumination, inspiration, "unveiling" or "tasting" of the truth, etc.

The second grievous antiscientific development after Avicenna was in the social and legal domain, with the criminalisation of heterodox thought, which was defined as unbelief and accorded the legal status of apostasy (*zandaqa*), punishable by death under certain circumstances.

The third major antiscientific development was that the Avicennan corpus of science pertaining to metaphysics and some of the physics, now subject to suprarational methods of analysis and treated with the theological aim of accommodating Sunni Islamic doctrine, was reformulated, repackaged and regurgitated in a new genre of writing. This process took some time to reach maturity, and it also took a variety of forms, the motor driving it being the altered discursive strategy of making religion the arbiter of science at both the intellectual and legal plane; its principal intention was to argue in favour of Sunni Islamic doctrine in scientific terms, to countermand the presumed scientifically argued Ismaili Islamic doctrine. It was thus not like the traditional theology which had its own methods, procedures and technical terminology that it did not try to pass off as science; the new genre of writing did. But then neither was it science, in that it violated all the basic principles of what doing science had meant historically, which was the open-ended rational investigation of all reality.

It was not open-ended, in that it strove to argue for one predetermined thesis, the Islamic mythological narrative; it was not completely rational, in that it admitted selectively suprarational modes of acquisition of knowledge; and it was not an investigation of all reality in that it narrowed the discussion to certain subjects, those of interest to religious doctrine (essentially, metaphysics, cosmology and psychology). For this reason I suggested that we call this sort of clandestine theologising that *simulates* and presents itself as philosophy or science as "paraphilosophy", and understand the term to mean "doing what appears to be philosophy/science in order to divert attention from, subvert and substitute for philosophy/science, and as a result avoid doing philosophy/science".

What the new name of this discipline and discursive strategy is intended to emphasise is the fact that they were different from anything that had preceded. This was recognised and remarked upon by the Muslim scholars themselves, who called the new discipline "Islamic philosophy" or science. Thus beyond the issue of its mere appellation, what is significant about the acknowledgment of the new discipline with a new name is that it indicates a shift in cultural attitudes towards scientific knowledge, in that it was now possible to view it as exclusively *Islamic* scientific knowledge as opposed to the scientific knowledge of others. In the terms of our discussion, the alternative facts imposed by the Islamic mythological narrative were now organised to form an alternative science.

This development parallels the emergence of *Islamic* medicine in the form of "Prophetic medicine" (watered down snippets pilfered from Avicenna's *Canon of Medicine* and presented with a heavy dose of Quranic and Prophetic dicta), and the development of *Islamic* astronomy as anti-Hellenic astronomy. Thus, before these developments, which had begun by the twelfth century, science was understood to be common to all humanity (which, in any case, was the very rationale used by Muslim scholars for the translations and the importation of "foreign" science into Arabic), while the variations from the mythological narrative of Islam were either explained (away) in metaphorical and allegorical terms, or disregarded as belonging to two distinct and disparate spheres of human and social experience, and hence not in mutual conflict. But by the twelfth century the process was set into motion which culminated in the creation of paraphilosophy, in which the two disparate spheres were joined so that an alternative science was created which belonged not to all humanity but to Muslims alone: "Islamic" philosophy, "Prophetic" medicine, "Islamic" astronomy. The purpose then of paraphilosophy is seen certainly to make science, or Avicenna's scientific system and world view, acceptable to Muslims by sanitising it, but also to create this alternative Islamic science.The consequences of these developments were momentous. Most significantly, the emergence of

paraphilosophy as Islamic science and its supplanting of rational science meant the end of research-based investigations and understanding of reality. This also led to the fragmentation of the scientific disciplines that were cognitively unified; the various sciences – from physics to biology to mathematics and astronomy – were atomised and independently pursued without their theoretical basis in a unified scientific world view. Paraphilosophy restricted itself mainly to theological subjects, God, the universe and man's relation to it; logic was dissociated from the rest of the sciences and was cultivated as a discipline unto itself; astronomy, dissociated from an overall physical and cosmological context, became a jostling of models and numbers to account for the position and movements of the planets; medicine was socially sidestepped by the appearance and proliferation of manuals on "Prophetic medicine"; zoology was reduced to accounts of the "marvels of creation", and ethics and politics continued as practical advice books in various "mirrors for princes".

The antirationalist outlook eventually opened the gates to the development of mystical, fantastic and illusionary intellectual constructs, each presenting itself as true philosophy and a confirmed scientific system, adopting the terminology and discourse of science. Ibn-Arabi's mysticism, elevated to a comprehensive world view by his eminent disciple Sadraddin Qunawi, became as prominent and respectable as science and theology. Other systems of asserted knowledge like lettrism, geomancy and astrology provided authoritative and predictive interpretations of all reality, both metaphysical and political, and were embraced by the rulers after the fourteenth century. Whatever scientific research may have been conducted in the various disciplines in isolation from each other, as mentioned, did not yield results to have noticeable effects.

With colonialism in the nineteenth century, the Islamic world view came in earnest contact with the post-Enlightenment European one. What this means in terms of our discussion here is that the European scientific facts now came, as alternative facts themselves this time, into conflict with the facts of the Islamic world view since the twelfth century. The nature of the reactions to this confrontation in the Islamic world, indissolubly linked with and determined by the political developments in each country, ranged over the entire spectrum. Some countries (and also factions within countries) adopted the European world view fully (called "modernisation" and "Westernisation"), not only with regard to the sciences, up to and including evolution, but also secularism and secular social and political institutions as well, as in the Republic of Turkey. Others have tried to reach a compromise between the two and harmonise selectively modernism with tradition in their beliefs and social institutions, as in Egypt. Yet others have rejected modernisation and adhered to tradition, attempting

to generate Islamic sciences to mirror the European ones: the hard sciences were necessarily accepted, but the humanities and social sciences were rejected and replaced by their corresponding "Islamic" ones. Theorising the social sciences especially has been vigorously pursued in efforts to create an Islamic social theory; in the Islamic Republic of Iran there has been continuous work to generate such fields as Islamic anthropology.[8]

We are still in the middle of this process of competing alternative facts in the Islamic world – which ones to adopt, how to form the perception of which reality. But precisely because this process is in progress and highly variable, as it is experienced to be in the Trump era in the United States, it is possible to see indeed in how many ways reality is socially constructed.

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[8] Alireza Doostdar, "Varieties of Islamic Social Science," *Know* 2 (2018): 229–47. For an overview of these developments in the Islamic world, see Anke von Kügelgen and Peter Adamson, "195 – Anke Von Kügelgen on Contemporary Islamic Thought," History Of Philosophy Without Any Gaps podcast, 26 October 2014, https://historyofphilosophy.net/contemporary-islam-von-kugelgen.