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Countering the *Sharīʿa*: How Material Culture Constructs A Narrative of an “Islamic” Identity that Counters the *Sharīʿa*

Saira Malik

Abstract: This essay argues that the Western caricature of Islam as inherently uncivilized and irrational elicits a construction of Islamic material heritage that positions itself in opposition to the *Sharīʿa*. I use evidence from two recent museum exhibitions of Islamic material culture to show that a positive representation of an “Islamic” identity is typically cast in ways that run counter to the *Sharīʿa*. The two case studies analysed here are drawn from the history of science. In each case study, “Islamic” is conceived as related to rational and civilizational values rather than those based on religious textual authority. I argue that the cultural narrative articulated by these case studies has arisen as a reaction to the Western representation of Islam and Muslims as bound to religious dogma, and thus ipso facto, as being irrational and uncivilized.

All memory is individual, unreproducible—it dies with each person. What is called collective memory is not a remembering but a stipulating: that this is important, and this is the story how it happened, with the pictures that lock the story in our minds.

—Susan Sontag, *Regarding the Pain of Others*
(London: Penguin Books, 2003) 76–77.

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The notion that cultural heritage both reflects and reinforces group identity is widespread.¹ Heritage is used to confer legitimacy on group identity: the idea that collective identity is not transient but that it has been formed in some distant past and has survived the test of time gives reassurance that it will survive into the future. This is particularly true for the heritage of material culture.² In English, as in many other languages, the notion of heritage evokes material culture more than other cultural forms such as music or dance. Material culture is understood as not just reflecting group identity but materializing it.³ How, and by what means, groups maintain their collective memory are key questions in the study of the construction and reproduction of group identities.⁴ Collective memory is thus a crucial component in the historical consciousness of groups, the production of their material culture and heritage, and their conception of identity.

Given the promiscuous use of the term “memory” in cultural studies, it may be useful to identify what is indicated by the concept of collective memory. Duncan Bell suggests distinguishing between social memory, mythology, and history as distinct modes of historical consciousness.⁵ Memory is a term most often conceived as belonging to individuals rather than groups; it is a class of cognitive and social processes that is “distressingly quixotic, perverse and idiosyncratic,” as the psychologist Chris McManus has noted.⁶ Jay Winter and Emmanuel Sivan have suggested that memory should be regarded as an individual cognitive process rooted in the experience (or perceived experience) of a past event or set of events.⁷ From these perspectives, memory per se can only belong to the individual. Collective memory, by contrast, is much more limited: it is restricted both spatially and temporally. Winter and Sivan suggest that collective memory can be understood as the process whereby groups of individuals publicly share and exchange memories of past experiences. They note that for more than one individual to share the same memory, even of the same event, “means only that there is sufficient overlap between their memory traces. For this overlap to become a social phenomenon, it must be expressed and shared.”⁸ For Winter and Sivan, this is the only sense in which one can speak of a “collective memory,” and it is in this way that “collective memory” is used in this essay.

Bell has expanded on Winter and Sivan’s thesis of collective memory by adding the concept of “mythos vs. logos.”⁹ Logos has long been contrasted to mythos, as reason is contrasted to imagination.¹⁰ In popular usage, myth tends to be understood as synonymous with false belief. However, this is not how Bell uses the concept. He suggests that myths should be regarded as highly simplified narratives that fix meanings to selected events, people, things, and places, whether real or imaginary. Thus myths, which are easy to understand and transmit, serve to reinforce particular visions—whether of the self or of groups. Myths or narratives of this type form the basis of “collective memory.” Bell refers to the totality of myths within a collective group as a “mythscape;” he describes

this as “the discursive space in which the various myths of the collective are forged, transmitted and challenged.”¹¹ Which myths dominate in this discursive space of the “mythscape” is the result of intra-group power dynamics. Because power dynamics change over time, the dominant myths of any group—those that govern collective self-understanding—are always contested.

Myth as a form of collective memory is usually placed in opposition to history. Jeffrey Olick has observed that distinctions between myth/collective memory and history tend to rest on viewing myth/collective memory as subjective and history as objective.¹² However, the notion of historical writing as “objective” has become contested in recent historiography, thus making a meaningful distinction between myth/collective memory and history problematic. Olick suggests that rather than entering into endless debates about what constitutes myth/collective memory and what constitutes history, it is more useful to see both concepts as alternative forms of historical consciousness.¹³ This is analytically helpful because, as Sharon Macdonald has noted, it shifts the emphasis from what happened in the past to how the past is remembered.¹⁴ Historical consciousness is highly reflexive and perspective-driven. Thus, it is context-sensitive. When the concept of historical consciousness is combined with myth and collective memory, it allows us to forego critiques of historiography and move on to consider more productive questions about cultural representations of the past and their meaning.

In this article, I use two exhibitions of the history of Islamic science as case studies to analyse the relationship between contemporary notions of “Islamic” group identity and “Islamic” heritage. The first case study is the international 1001 Inventions exhibition, originally conceived and produced in the United Kingdom. The second is a collection of scientific manuscripts produced in Turkey and housed at the Whipple Museum of the History of Science in Cambridge, UK. In what follows, I will first give a description of these exhibitions for those not familiar with them, and then move on to their analyses.

The 1001 Inventions Exhibition¹⁵

From January to June 2010 the Science Museum in London hosted the 1001 Inventions exhibition. The exhibition was the product of collaboration between the Science Museum and an NGO, Foundation for Science, Technology, and Civilisation (FSTC).¹⁶ This NGO describes itself as “a British educational organisation dedicated to exploring and promoting social cohesion and inter-cultural appreciation.”¹⁷ Although the point is not made explicitly, the primary interest of FSTC is the preservation of Islamic cultural heritage, as outlined on their website. The principal aim of the exhibition was stated as tracing “the forgotten story of a thousand years of heritage from the Islamic world,” and recognizing “the achievements that are credited to the Islamic world.”¹⁸

The exhibition contained a diverse range of exhibits, including material objects and artefacts that would traditionally be found in the Islamic, Oriental, or Near/Middle-East collections of major museums such as the British Museum in London, the Louvre in Paris, or the Pergamon in Berlin: these included pre-modern astrolabes, globes, scientific instruments, and manuscripts. Surprisingly, however, these artefacts were in the minority in the 1001 Inventions exhibition. They were not given as much attention as other kinds of exhibits, such as models, interactive displays (see Figure 1), videos, films, projected texts, and images on screen (see Figure 2). Another distinguishing feature of the 1001 Inventions exhibition was the type of narrative used for commentary in many of the exhibits. Commentary was presented in a simple and eye-catching way using non-academic language, bright colours, and graphic images (see Figure 3).

The exhibition was organised into seven thematic areas (see Figure 4)¹⁹ and used a film as its centrepiece. This film was one of the highlights of the exhibition and featured the famous British actor, Sir Ben Kingsley, as the narrator. The seven thematic areas of the exhibition were structured to relate a clear and consistent narrative: that Islamic culture had a material influence on significant aspects of modern Western society. The exhibition was organised in such a way that the visitor followed a path that led to distinct levels of complexity in the organization of society and space. The way stations or “zones” of this path were designated as follows: (1) Home Zone; (2) School Zone; (3) Market Zone; (4) Hospital Zone; (5) Town Zone; (6) World Zone; (7) Universe Zone.

The Home Zone exhibit presented inventions attributed to Islamic origins that were portrayed as shaping modern Western daily lives. The principal feature of this exhibit was a mechanical clock, named the “Elephant Clock,” attributed to al-Jazari (d. 1206 CE). The scale model of this clock was designed especially for the exhibition, and constituted one of the principal features of the exhibition (see Figure 5). The commentary explained the mechanism of the clock, which was based on the classical “crank and connecting rod” system. Also notable in the commentary was the emphasis given to the different cultural influences on the various parts that made up the complex mechanism of the clock.²⁰

Other sections of the Home Zone exhibit laid claim to a range of activities embedded in Western life that were identified as having Islamic antecedents, such as clocks and cameras. However, the narrative in this exhibit did not just stop at material objects; it also emphasized the social mores that the West had incorporated from Islamic cultures. This could be seen in several parts of the exhibit: “On the coffee trail” explained how a Turkish merchant first brought coffee to London in 1650; another section explained how the three-course meal was introduced into Europe via Islamic Spain, along with the use of fine tablecloths, pottery and crystal. Another section mentioned how the game of



Figure 1: Interactive model of a water feature in the Market Zone of the *1001 Inventions* exhibition. (Image reproduced with the permission of FSTC.)



Figure 2: Partial view of the exhibition, illustrating some of the projected texts and images in the *1001 Inventions* exhibition. (Image reproduced with the permission of FSTC.)



Figure 3: An example of one of the representative figures of the World Zone section in the 1001 Inventions exhibition. (Image reproduced with the permission of FSTC.)

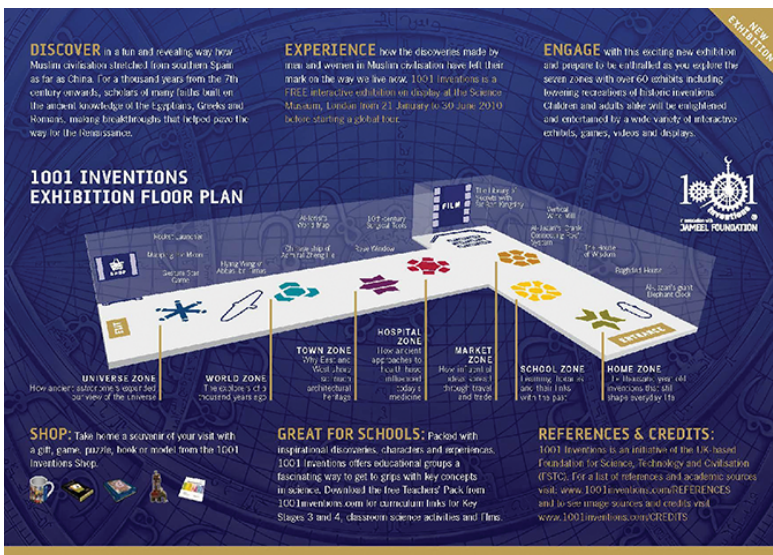


Figure 4: General layout of the 1001 Inventions exhibition. (Image reproduced with the permission of FSTC.)



Figure 5: Model of al-Jazari's Elephant Clock in the *Home Zone* exhibit of the *1001 Inventions* exhibition. (Image reproduced with permission from FSTC.)

chess was introduced to European societies.²¹ Also included in the Home Zone exhibit was a section on music and how Islamic musical instruments and musical notation were precursors for Western music practices. There were also sections on the use of luxury textiles for personal clothing and home decoration and devices for entertainment purposes.

The School Zone exhibit told the story of the influence that Islamic culture had on the West with respect to the dissemination and development of knowledge. The section contained exhibits and commentary related to a diverse range of disciplines: mathematics, science, art, literature and languages.²² One of the principal features in the School Zone was the “House of Wisdom” exhibit. This described the institution commonly referred to as the “House of Wisdom” (Ar. *Bayt al-Hikma*) established by the Abbasid Caliph Hārūn al-Rashid in Baghdad in 786 CE and expanded considerably by successive Abbasid caliphs.²³ As with the main exhibit (Elephant Clock) in the Home Zone exhibit, also emphasized were the diverse cultures, ethnicities, and religions of the people who contributed to this knowledge-based enterprise. Explicit mention was made of their different religious affiliations: Christian, Jewish, Muslim, Pagan.

The School Zone exhibit led into the Market Zone. The section here gave an account of the importance of trade in pre-modern Islamic culture and included commentary on the use of accounting methods and coinage as well as comments on the industries that were important to this theme, including textiles, glass, paper and pottery. The focus of the exhibit was particularly on technological innovations, which gave rise to the increasing differentiation and quality of the goods produced in each of these industries. Another important feature of this Zone was extensive coverage of agricultural and water management. The emphasis in the accompanying commentary was on the importance of technological and agricultural innovation in increasing prosperity, leading to better standards of living for the medieval Muslim population: the terms “technological revolution” and “agricultural revolution” were used repeatedly to refer to technological and agricultural innovation.

Next was the Hospital Zone exhibit. This section emphasized the links between medical and pharmacological knowledge, the methods, practices, and instrumentation used by medical practitioners in pre-modern Islamic culture, and their influence on the contemporary Western world. One notable claim was that the surgical instruments developed by Abū al-Qāsim Khalaf al-Zahrāwī (d. ca. 1036 CE) had not changed to a great extent until the present day. The exhibits emphasized the health care systems of pre-modern Islamic culture and the variety of drugs, treatments, and procedures offered to patients as a result of increasing medical knowledge and technical advancements.²⁴

The Town Zone exhibit gave an account of the shared heritage of architecture between modernity and pre-modern Islamic towns and cities: examples included domes, vaults, arches, towers, and gardens. The exhibit not only covered the technical aspects of these architectural features but also emphasized the implications for “daily life” of these features—for homes built in conformity with landscape and climate, for public spaces built for comfort and easy access, and the responsible use of water for personal hygiene and health.



Figure 6: Al-Idrisi's map showing Europe, Asia and North Africa in the *World Zone* exhibit of the *1001 Inventions* exhibition. (Image reproduced with permission from FSTC.)

The World Zone exhibit covered a very diverse range of subject matter. The “Planet Earth” section covered the astronomical and mathematical knowledge that undergirded ideas about planetary measurements and movements. Emphasis in the commentary was given to the fact that this work was based on “observation and experiment rather than hearsay and myth.”²⁵

Al-Idrisi's World Map (see Figure 6) was one of the principal exhibits of the World Zone exhibit. This map was composed by Muḥammad al-Idrisi (d. 1166 CE) in Norman Sicily. It is the earliest extant map showing Europe, Asia and North Africa in a single image. As an artefact, this map is interesting because it was based not only on the maps available at the time but also on travel diaries and (very unusually in the history of cartography) eyewitness accounts. This exhibit, like the Elephant Clock, emphasized inter-cultural connections. The exhibit commentary, “View from a Cultural Crossroads,” highlighted the fact that Al-Idrisi—a Muslim—had been asked to undertake this project by King Roger II (r. 1130–50 CE), a Norman Christian.

The last section of the 1001 Inventions exhibition was the Universe Zone. This exhibit examined how the work of astronomers, natural philosophers, and instrument makers in pre-modern Islamic societies advanced knowledge about the physical bases of the universe. The main parts of this section were Astronomy, Observatories, Astronomical Instruments (with a particular focus on the astrolabe and the armillary sphere), The Moon, Lunar Formations, and Constellations. Along with commentary describing individual discoveries and items, emphasis was given to the claim that the Western Latin astronomical tradition—marked in particular by the names of Copernicus and Galileo—owed much to the medieval Islamic astronomical tradition. This was expressed in terms of knowledge transfer related to scientific knowledge, as well as instrumentation.²⁶

The Whipple Manuscript Collection

In the Main Gallery of the Whipple Museum of the History of Science at Cambridge University,²⁷ one cannot help but be drawn to its collection of illustrated Islamic manuscripts (Figures 7–9). These images are instantly recognisable to those familiar with Islamic art and the history of Islamic science. Two of the images (Figures 7 and 8) are taken from a copy of the late sixteenth-century Ottoman manuscript, *Shahinshah Nama* (Book of the King of Kings), while the third image (Figure 9) is taken from a copy of the sixteenth-century Ottoman *Nusret Nama* (Book of Victory).

Taken together, these illustrated manuscript pages evoke a wide range of ideas related to the history of Islamic science, particularly the types and use of scientific instrumentation. The images from these works include astrolabes, globes, sextants, and armillary spheres. Moreover, they exemplify the social context of how scientific activity was conducted (in groups and in collaboration), and illustrate the dissemination of scientific knowledge based on demonstration: teachers showing groups of students how to use particular instruments.

The Whipple Museum catalogue describes the manuscripts as Ottoman in origin dating from the mid-eighteenth century. However, on close inspection of the manuscripts it quickly becomes clear that the catalogue description cannot be taken at face value: a number of inconsistencies are apparent that relate primarily to the text on the manuscript pages. First, the text contained within the image part of the manuscripts—rendered in Arabic lettering—relates to no language based on an Arabic script, including Ottoman Turkish. The script is drawn in an ornate fashion but is a collection of random Arabic letters strung together. Second, the portion of text that is meaningful—that which is outside of the image part of the manuscripts—both on the front (image) side of the



Figure 7: Astronomical scene from the *Shahinshah Nama*, showing astronomers working with a variety of instruments (astrolabes, quadrants, globes, diopters). The scene depicts the Istanbul Observatory built by the Ottoman Sultan Murad III (r. 1574–1595) for the court astrologer Taqī al-Dīn. (Photograph of Wh.5358.4 taken and reproduced by the author with the permission of the Whipple Museum of the History of Science, University of Cambridge.)



Figure 8: Astronomical image showing a giant armillary sphere supported in a wooden frame. The five rings of the armillary sphere correspond to the five principal circles of the celestial sphere. The figures in the image represent astronomers taking measurements in the upper part of the device and their assistants taking notes and making adjustments to the instrument in the lower part of the device. (Photograph of Wh.5358.2 taken and reproduced by the author with the permission of the Whipple Museum of the History of Science, University of Cambridge.)



Figure 9: Two scenes of an astronomer instructing students on the use of a quadrant. These scenes from the *Nusret Nama* (British Library MS Add. 7698 folio 126r) depict Naṣīr al-Dīn al-Tūsī (d. 1274 CE) instructing students in astronomy. Tūsī founded the Marāgha Observatory in northwestern Iran under the patronage of the Mongol Ilkhanid ruler Hülegü Khan (d. 1265 CE). (Photograph of Wh.5358.5 taken and reproduced by the author with the permission of the Whipple Museum of the History of Science, University of Cambridge.)

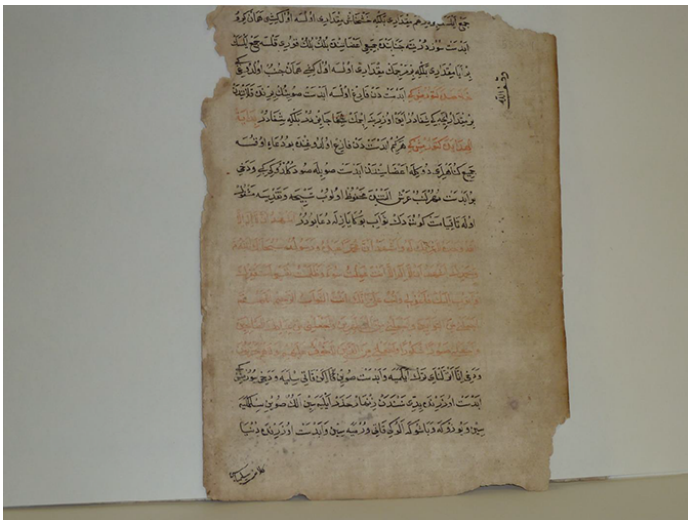


Figure 10: Reverse side of a manuscript page from the Whipple Collection. (Photograph of Wh.5358.9 taken and reproduced by the author with the permission of the Whipple Museum of the History of Science, University of Cambridge.)

pages (Figures 7–9) and on the back (Figure 10), has no relationship in terms of content to the images depicted on these pages.

For example, on the back of one of the illustrated pages (Figure 10) one finds a text in Arabic script rendered in black and red ink. The subject of the text relates to religion and is primarily concerned with ritual purity. The red ink renders the Arabic language part of the religious text, and the text in black ink is in Ottoman Turkish: the Ottoman text in black ink is a commentary on the Arabic text in red ink. There are also two marginal notations: one at the bottom of the page on the far left, which is the typical page numbering system for Arabic manuscripts, and the other notation in the right margin. The notation in the right margin reads, *waqf Allāh* (“endowment of God”). This is a standard phrase that indicates a trust set up for charitable purposes. It most likely indicates that the manuscript was produced under the aegis of an Islamic charitable trust, probably a religious foundation, given that the contents of the text refer to matters such as ritual purity. Most importantly, the religious subject matter of the text outside the borders of the images (both front and back) is unrelated to the scientific subject matter of the images.

This textual analysis is substantiated when the manuscript page is examined with a simple light microscope (magnification x40). This microscopic analysis shows that the manuscript is a palimpsest. After analysis, it becomes clear that the images in the manuscripts have been painted over an erased original text that resembles the text shown in Figure 10: this text is a combination of Arabic and Ottoman writing in red and black ink. Analysis of the paper and paint pigments indicates that the paper is much older (pre-nineteenth century) than the pigment (late twentieth century) that is used in the images.

It is therefore clear that the illustrated manuscripts as presented for exhibit are a hybrid and a forgery: pre-nineteenth century religious texts used as the material vehicle for modern reproductions of scientific images that were superimposed onto parts of the text within the last few decades.

The Question of “Heritage”

Before I turn to consider the substance of these case studies, the issue of their status as “heritage” exhibitions merits attention. The producers of both exhibitions should be considered active agents in the process of heritage-making. Following David Harvey, I define heritage as “anything by which some kind of link, however tenuous or false, may be forged with the past.”²⁸ By using this definition, the issue of the apparent forgery of the illustrations in the Whipple manuscripts and the presence of “imitations of the originals” in the 1001 Inventions exhibition is rendered irrelevant. What remains relevant is that the different acts of “copying” in these cases demonstrate a link to, and a reverence for, the past, which helps confer the status of “heritage” on each product. This active process of heritage-making confers its products with meaning, which

is bestowed according to the identity, power, and authority of the exhibiting institutions. This process also draws on the factors of group identity and group memory to which the process of heritage-making gives material form. One of the clearest examples of this in the above case studies is the prominence given to the film presentation in the 1001 Inventions exhibition, which may be described as “memory performed” and “an occasion for cultural mythmaking.”²⁹

Civilization and Rationality

The 1001 Inventions exhibition is very different from more traditional exhibitions of Islamic, Near Eastern, or Middle Eastern material culture, such as the permanent exhibits at the Victoria and Albert and British Museums in the United Kingdom, the Louvre in Paris, or the Pergamon in Berlin. Unlike these other exhibitions, the 1001 Inventions exhibition explicitly sets out to draw in the non-specialist—and in particular, the school age—visitor. This is evident in a number of ways. First, and most obvious, is the use of interactive models such as the model shown in Figure 1. These were built in a way to attract attention with the use of bright colours and ease of access but also by providing clear commentary for a younger audience on how they should be used. Second, the exhibits were made as accessible as possible. Although original manuscripts had to be encased in glass for protective reasons, representative examples of the texts were projected in a highly readable form, as shown in Figure 2. This is very different from some exhibits in the British Museum, where even specialists have to struggle to read the displayed Arabic manuscripts because of the distance between the manuscript page and the visitor. Another way that the 1001 Inventions exhibition differed from its more traditional counterparts was in the style of commentary used. The commentary for this exhibition was written in non-specialist language, which was aimed at school age visitors, as shown in Figure 3. The aim of appealing to school age visitors was also underlined by the production of the film, “The Library of Secrets,” which was one of the main features of the exhibition. This film was quite different from other documentaries on the history of Islamic material culture related to ideas and knowledge, such as “Science and Islam” and “An Islamic History of Europe,” presented by BBC4.³⁰ Whereas these latter films were aimed at adult audiences, “The Library of Secrets” film was aimed at school age viewers: the film was constructed around the motif of a school librarian (played by Sir Ben Kingsley), who leads a group of adolescents on a journey of discovery through the inventions that make up the exhibition.

However, the most important way in which the 1001 Inventions exhibition differs from exhibitions in more traditional museums is in the type of narrative that it articulates. This narrative takes what anthropologists call a position, which is unequivocal in terms of its language and its claims; this is quite different from the case of exhibitions in more traditional museums, where the commentary is

deliberately descriptive rather than assertive in the interest of preserving a sense of “neutrality.”

In general, from a Western perspective Islamic culture is synonymous with the *Shari‘a*. In other words, “Islamic” is understood to be a nomocentric or “law-centred” religious notion and as such it is considered to be resistant to the processes of modernization. The values of the Post-Enlightenment West are premised on a break from textual authority—in particular, religious textual authority. This positioning thus leads to the assumption that any adherence to religious textual authority—such as the *Shari‘a*—is irrational, and thus antithetical to the values of the Post-Enlightenment West. What is most significant in the 1001 Inventions exhibition is the absence of any reference to Islamic culture as related to the *Shari‘a*—this is the case for the exhibits as well as for the commentary. There are no exhibits related directly to the primary Islamic religious texts of Qur’ān or Hadith, as well as none to religious texts that intersect with the subjects of science and medicine. Any mention of religious ideas and practices in the exhibition is utilitarian: for example, religious concerns are mentioned only as motivations for the production of geometrical art and astronomy. As the selection of commentary reproduced below demonstrates, astronomy was considered necessary for religious purposes because of the need to fix times for worship and to set the Islamic calendar:

Why the interest in astronomy? There was the practical need to determine the times for daily ritual worship throughout the year, and these times depended on the sun’s position in the sky, as times for worship were at dawn, midday, afternoon, sunset and evening. Also important was to know the direction of Mecca from every geographical location—this could be done by observing the position of the sun and the moon. In addition, the Islamic calendar is a lunar calendar—phases and the position of the moon needed to be understood to establish the beginning of each lunar month.

The term that is used to describe the Islamic cultures treated within the Exhibition is “civilization.” The term “civilization” is used consistently throughout the Exhibition, as shown in the following introductory commentaries to the various sections of the Exhibition:

- “In the Home Zone, you will encounter the thousand-year-old inventions that still shape daily life. From chess to cameras, today’s home life is packed with objects influenced by early Islamic civilization.”
- “The School Zone tells the story of the considerable influence of Islamic civilization on the development and spread of knowledge.”
- “The Market Zone explores the ways in which influential ideas from Islamic civilization spread around the world.”

- “In the Hospital Zone, you will see the many ways in which medical knowledge and treatment from Islamic civilization influenced the medicine we experience today.”
- “The Town Zone explores the shared heritage of architecture between the modern world and Islamic civilization.”
- “In the World Zone, you will discover how geographers, navigators, explorers and scholars in Islamic civilization influenced mapmaking and the way we see the world today.”
- “The Universe Zone examines how astronomers, natural philosophers, and instrument makers in Islamic civilization expanded our knowledge of the universe.”

Even more important than the preference for the term “Islamic civilization” is how Islamic civilization is conceived; that is, what meaning is ascribed to this term? The meaning of “Islamic civilization” becomes apparent when one considers what is included in the Exhibition and what is absent. Specifically, the exhibit lacks any reference to the *Shari'a* or mention of Islam as religion. What is left presents, by contrast, a very clear vision of what “Islamic civilization” means to the creators of the Exhibition.

According to the Oxford English Dictionary, one of the meanings of the term “civilization,” is, “to enlighten, to refine, to educate;” another is, “to bring to conformity with the standards of behaviour and the tastes of a highly developed society.”³¹ The organisation of the 1001 Inventions exhibition, as well as the selection of exhibits, speaks to both of these meanings of “civilization.” The emphasis on learning, knowledge and education is particularly clear in the School, Market, Hospital, Town and World Zones while evidence of different levels of social organisation are obvious in the Home, Market and Town Zones. Of particular note is the selection of exhibits in the Home Zone, which evoke refinement of taste, and the pursuit of leisure and luxurious living: this zone portrays elaborate cuisines and styles of dining, different forms of music, luxury wares such as carpets for dwellings, the use of luxury textiles for clothing, different kinds of fashions and jewelry, and different forms of entertainment such as games including chess and magic devices. This section of the 1001 Inventions exhibition—with its preponderance of exhibits related to personal luxury, vanity, entertainment, and leisure—is perhaps the one that speaks the most as a counter to the *Shari'a*; particularly in its orthodox and fundamentalist form that emphasizes austerity and self-denial.

In addition, the narrative of the 1001 Inventions exhibition makes a point of emphasizing rationality, both in the language it uses and in the choice of exhibits it presents. The most obvious way that the Exhibition narrative gives importance to rationality is in the sheer number of exhibits that can be construed as “scientific.”

Most of the Exhibition consists of exhibits related to science. Furthermore, the exhibits relate to a plethora of scientific fields of inquiry, including biological, chemical, physical, and mathematical.

The commentary related to scientific practice is also noteworthy in that it uses a consistent terminology: particularly prominent are the concepts of observation, demonstration and experimentation. These terms are not only associated with science in general but with a particular kind of science: this is the methodology that underpinned the Western “scientific revolution,” which helped pave the way for modern Western scientific, technological, economic, cultural, and political hegemony. Examples of this perspective from the Exhibition commentary include the following:

- “Ibn al-Haytham’s search for evidence set the scene for the development of experimental science and the rational approach of later scholars. Many of his works, including the Optics, were translated into Latin, and amongst those influenced by his work and methods were Roger Bacon, Leonardo da Vinci and Johannes Kepler—leading to the Scientific Revolution.”
- “As early as the middle of the ninth century, experimenters in Islamic civilization were aware of the processes of crystallization, oxidation, evaporation, sublimation, and filtration. To make their experiments more accurate, they invented precise scales to use for weighing chemical samples. They developed theories based on accurate measurement, observation and experiments.”
- “Along with other scholars of Islamic civilization, Ibn Sina questioned superstitious beliefs and sought to develop a rational understanding of physical processes.”
- “Ibn Hazm, a tenth-century man of letters from Cordoba in Spain, said, ‘The Earth is spherical despite what is popularly believed ... the proof is that the Sun is always vertical to a particular spot on Earth.’ This is another example of where Muslim scientists were carrying out ground-breaking research that was based on observation and experimentation rather than hearsay and authority.”
- “The astronomers of Islamic civilization challenged ideas they had inherited. Their observations, experiments and mathematical research allowed them to develop new models to which, through translation, Western astronomers gained access. Scientific texts, tables of data, and descriptions of instruments from Arabic into Latin provided the foundations for Latin astronomy, paving the way for Nicolaus Copernicus’s ideas of the sun-centred solar system published in 1543 and the later Scientific Revolution.”

The perspective of the 1001 Inventions exhibition depicting Islamic culture as a rational civilization is also reflected in the Whipple manuscript collection (Figures 7–10). Not only are all of the images displayed in the manuscripts scientific, but they also allude to observation, measurement, and experimentation rather than to textual authority. Once again, experimentation, observation and demonstration are privileged over religious textual authority.

The manuscripts displayed in the Whipple collection were produced for tourist consumption—in particular for European tourists—and many others like the ones displayed in the museum can still be found in the popular tourist areas of Istanbul, such as Sultanahmet and Suleymaniye. Typically, they are sold as single independent pages, each with its own image, and are sold principally for decorative purposes. The impression thus conveyed is that each manuscript page is a piece of Ottoman art. The image is the main attraction while the pre-modern Arabic or Ottoman text and the antique paper are used to give an appearance of “age” and hence “value” for the tourist retail trade. In traditional Ottoman art the most common motifs are images of plants and flowers or patterns based on them.³² However, the images that are used in the Whipple collection could not be more different. Like other manuscripts of this type that I observed in Turkey, they are all scientific. Although the images in the Whipple manuscript collection are related to astronomy, others that I have observed cover a wide variety of scientific disciplines, including medicine. What all have in common, however, is that they are all related to empirical science with an emphasis on measurement and instrumentation.

The scientific images in the Whipple collection are also imbued with the ethos of learning and knowledge acquisition. All the persons depicted in these images are involved with measurement, observation, and record keeping and all are depicted as actively using the scientific instruments that are portrayed. As seen in Figure 9, a specific kind of educational setting is represented—one based on empirical demonstration rather than on textual authority. In fact, all the images in this collection convey the same notion of learning and advancement of knowledge via observation, measurement, and demonstration.

History, Myth and Memory

What purpose do the shared motifs of civilization and rationality serve in the narratives articulated by these two exhibitions? I suggest that the motifs of Islamic culture as a civilization rather than as a religion, and Islamic culture are based on rational values such as experimentation and demonstration, rather than one based on religious textual authority such as the *Shari'a*, construct the narrative of Islamic civilization as a precursor to, and hence a part of, modern Western civilization.³³ In the popular imagination, the modern hegemony of Western

civilization is explained in the following way: The “Scientific Revolution,” based on observation, experimentation, and demonstration, challenged textual authority—in particular, religious authority—and paved the way for the technological, agricultural, political and economic changes that occurred in Europe in the modern period. The names usually associated with the Scientific Revolution are Nicolaus Copernicus, Tycho Brahe, Johannes Kepler, Galileo Galilei, and Isaac Newton; all of these figures are mentioned extensively in the 1001 Inventions exhibition commentary. Another important point to note about the Scientific Revolution is its use by European societies to dramatically raise the living standards of all social classes in Europe.³⁴ The notion of scientific ideas being used to improve living standards in Islamic societies is also emphasized in the 1001 Inventions exhibition: terms such as “technological revolution” and “agricultural revolution” are used frequently and there is a constant emphasis on the social application of scientific ideas. This can be seen in the following two examples from the Exhibition commentary:

- “For 1200 years, the Islamic world was a powerhouse of knowledge, influence, and innovation, all driven by a massive economy that bought and sold across three continents. These societies were producing goods at a fast rate, and great leaps in technology across many industries from textiles to chemicals meant that vast numbers of people were employed in these flourishing industries and living standards raised.”
- “An agricultural revolution, accompanied by research, improved irrigation, and landownership rights, meant that the standard of living was raised. As agricultural practices drifted west, they were accompanied by coinage, money exchange based on “cheques,” and paper.”

The narrative that is articulated by the two museum exhibitions described above is that the heritage of past Islamic societies is more than a dogmatic adherence to a religious canon—the *Shari’a*—and that this “more” is a deeply embedded rational tradition, which was a precursor to the Western scientific tradition. In other words, “the Islamic” can be civilized and rational, just like “the West.” In articulating this narrative, the purpose of the exhibits is to counter the pervasive “Islam vs. the West” caricature which has become deeply embedded at all levels of Western culture since the colonial period.³⁵ The pervasiveness of this view has been noted frequently in recent Western scholarship.³⁶ The “Islam vs. the West” caricature runs approximately thus: Islam, as a culture and civilization, is committed to following its religious textual traditions as embodied in the *Shari’a*. It is therefore in a pre-modern stage of development and is therefore not fully rational. This framework is routinely used to explain disparate actions in Islamic societies: the veiling of women, religiously motivated violence, and

Shari'a-based practices such as public lashings, limb amputations, stoning to death, and beheadings. Often this list also includes the disapproval of luxury, music, and entertainment.³⁷

These caricatures add up to a view of Islamic culture as the opposite of what comes to mind when a Western observer thinks of “civilization”—particularly lacking are the scientific practices of observation, demonstration and experimentation. The 1001 Inventions exhibition counters this view by portraying the cosmopolitanism of Islamic culture—there is considerable mention of non-Islamic cultures and of non-Muslims contributing to the products of Islamic culture. This point is made especially clear in the prominence given to the two principal exhibits of the exhibition, the “Elephant Clock” (Figure 5) and Al-Idrisi’s World Map (Figure 6). In their emphasis on the importance of non-Muslim contributions to developing these products, these exhibits seek to counter the *Shari'a*-based marginalisation of non-Muslims as “dhimmis.”

The manuscript illustrations in the Whipple collection are also meant to counter the “Islam vs. the West” caricature. They too portray Islamic culture as including sources of knowledge other than those derived from religious texts; with an emphasis on knowledge based on observation, demonstration and experimentation. In particular, the use of human figures in these images belies stereotypical *Shari'a*-based notions of what is acceptable as artistic representation in Islamic culture. Further, these images demonstrate that the Ottoman Empire supported civilizational values that were shared with the West, such as institutions of knowledge and learning and investment in the infrastructure to support them (images of observatories and colleges are prominent in the Whipple manuscripts).

The historical narrative of the 1001 Inventions exhibition in terms of its scholarly value can, of course, be readily contested.³⁸ The narrative constructed here is that of a linear progression of ideas, discoveries, and inventions through time: for example, the *camera obscura* built by Ibn al-Haytham in the eleventh century is presented in the 1001 Inventions exhibition as a forerunner of the modern camera. This argument would not stand up to the scrutiny of professional academic historians today. However, the purpose of this narrative is not to be sound in terms of scholarly standards, but rather to construct a new “collective memory” or “mythscape” that revolves around the notions of civilization and rationality in order to challenge the notion that Islamic identity is (or should be) based solely on the *Shari'a*. How one remembers the past is a key mechanism through which group identities are shaped and reproduced.³⁹

The two case studies described in this article work to create a new myth or collective memory of “Islamic” in the West that is based on ideas embodied by the Scientific Revolution—thus attributing the qualities of “rational” and “civilizational” to “Islamic.” The use of material culture such as pictorial images

and film (“memory performed”) allows the process of cultural mythmaking to reach the widest possible audience. The appealing use of graphics, colour, and straightforward language makes this collective memory more accessible while audience participation in the interactive models serves to embed the desired model more thoroughly in the public consciousness. The preference for material objects, pictures, and film over text, lectures and documentation helps present the past as “heritage” rather than “history.” The power of this approach, as Steven Hoelscher suggests, lies in the fact that “Where[as] history remains remote and critical in its view towards the past, heritage thrives on personal immediacy and embraces the past as building blocks of identity.”⁴⁰

What is expressed in these case studies is an Islamic identity that privileges the “Islamic” as culture and civilization over the “Islamic” as just religion. More than forty years ago, in *Venture of Islam*, Marshall G. S. Hodgson pointed out the limitation of using the term “Islamic” to refer solely to religious notions in a Western sense.⁴¹ To overcome this limitation, he suggested a new term, “Islamicate,” which he proposed was more sensitive to the complexities of comparative civilizational studies.⁴² More recently, in the book *What Is Islam? The Importance of Being Islamic*, Shahab Ahmed has taken Hodgson’s position further with his robust critique of the simplistic equation of “Islam/Islamic = religion/religious.”⁴³ Michael Pregill, in his review of Ahmed’s book, poses the dilemma of defining Islam(ic) as follows:

The idea that religion, especially juxtaposed with the “secular,” is a modern construct is hardly new; this much is de rigueur, at least among religionists. Yet it can be extremely difficult to transcend the reflexive tendency to see Islam as something that is or should be primarily defined through recourse to categories embedded in Western concepts of what religion is and delineations of what its domain does and does not encompass. Time and again biases informed by these concepts have led to a privileging of a conception of Islam as defined by the ‘*ulamā*’, as fundamentally a legal-prescriptive discourse articulated in the literature of the so-called religious sciences; the result, of grave consequences for scholars, is that phenomena that do not fit into this model are given secondary importance, sidelined as expressions of culture, civilization, the secular—as anything but simply Islam. The emphasis on prescriptive and nomocentric discourse as epitomizing Islam, as an indispensable core at the communal and societal (if not individual) level, unjustly marginalizes other forms of Muslim construction of meaning as illegitimate, idiosyncratic, or superfluous.⁴⁴

The two case studies presented here bring these complexities to the fore very effectively. They force us to widen the space allocated to what it means to be “Islamic.” These case studies make us include within this “Islamic” space that which goes beyond the *Shari‘a*—and perhaps most importantly, not only that which goes beyond the *Shari‘a*, but that which counters it: knowledge derived

from sources other than religious texts and authorities. This potentially makes “Islamic” a highly protean concept, able to be constructed and reconstructed in a myriad of ways.

Endnotes

1. Sharon Macdonald, “Undesirable Heritage: Fascist Material Culture and Historical Consciousness in Nuremberg,” *International Journal of Heritage Studies* 12.1 (2006): 9–28.
2. Daniel Miller, *Material Cultures* (London: University College London Press, 1998).
3. Macdonald, “Undesirable Heritage,” p. 11.
4. Allan Megill, “History, Memory, Identity,” *History of the Human Sciences* 11 (1998): 38–43.
5. Duncan Bell, “Agnostic Democracy and the Politics of Memory,” *Constellations* 15 (2008): 148–166 here p. 150.
6. Chris McManus, “Tilting at the Windmills of Our Minds,” *Times Higher Education Supplement* 16 (Sep 2005), p. 24.
7. Jay Winter and Emmanuel Sivan, “Setting the Framework,” in: *War and Remembrance in the Twentieth Century*, eds. Jay Winter and Emmanuel Sivan (Cambridge, UK: Cambridge University Press, 1999), pp. 6–40.
8. *Ibid.*, p. 13.
9. Bell, “Agnostic Democracy and the Politics of Memory,” p. 151.
10. See Bruce Lincoln, *Theorizing Myth: Narrative, Ideology, and Scholarship* (Chicago: University of Chicago Press, 2000).
11. Bell, “Agnostic Democracy and the Politics of Memory,” p. 151.
12. Jeffrey K. Olick, “Introduction,” in: *States of Memory. Continuities, Conflicts, and Transformations in National Retrospection*, ed. Jeffrey K. Olick (Durham, NC: Duke University Press, 2003), pp. 1–16, here p. 8.
13. *Ibid.*, *loc. cit.*
14. Macdonald, “Undesirable Heritage,” p. 12.
15. “1001 Inventions. Discover a Golden Age—Inspire a Better Future,” (2018). URL: <http://www.1001inventions.com> (Accessed 13 Jun 2017).
16. “Foundation for Science Technology and Civilisation,” (2010–2017). URL: <http://www.fstc.org.uk> (Accessed 13 Jun 2017).
17. *Ibid.*
18. See <http://www.1001inventions.com> (accessed 11 Jun 2017).
19. All the photographs of the 1001 Inventions Exhibition were kindly provided by the Foundation for Science, Technology and Civilization (FSTC). They are re-produced here with permission.
20. The commentary states, “The Elephant Clock was a masterpiece that celebrated the diversity of humankind. Its moving parts were automated using an Indian-inspired water-powered timer. Combined with this were an Egyptian phoenix, Greek hydraulic technology, Chinese dragons, an Indian elephant, and mechanical figures in Arabian dress. The clock cleverly reflected cultural and technological influences from across the world, from Spain to China.”
21. The commentary explains that a game resembling chess had been widely played in India and had become particularly popular in the Persian court where it was adapted in various ways. Chess became so popular in Muslim culture that entire genres are dedicated to it: from guides of how to play, to games conducted by correspondence. Chess was introduced into Latin Western

courtly culture from Muslim Spain during the eleventh century and became particularly popular in court life.

22. Examples are abundant in a number of fields: those from mathematics include algebra and decimalization; those from science include chemical methods such as distillation and filtration (crucial in perfume making); those from art include the arabesque motif; those from literature include the idea of the philosophical and ethical development of an isolated individual—such as *Hayy ibn Yaqzan* by Ibn Tufayl (d. ca. 1185 CE)—a precursor to Defoe's *Robinson Crusoe*. The exhibition literature describes the cultures of knowledge in which learning took place in pre-modern Islamic societies: "The ethos of learning was a culture where inquiring minds searched for truth based on scientific rigour and experimentation, where opinion and speculation were cast out as unworthy pupils. This system of learning embodied by medieval Islam formed the foundation from which came exceptional inventions and discoveries." In the exhibits, emphasis is also given to the institutional settings and practices in which knowledge-based activities occurred: schools, universities, specialist centres of translation and learning, systems of awarding of degrees and honours as well as practices related to teaching. One notable example was the use of the word "chair" to denote the rank of professor in the West—the borrowing of "chair" related to the practice of professors sitting elevated on chairs among colleagues and students who would sit on the floor.

23. The "House of Wisdom" was a centre of translation and learning, and those connected to it are credited with the translation of the major Greek, Syriac, Persian and Sanskrit philosophical and scientific works into Arabic—the main language of scholarly discourse in pre-modern Islam. The casting of a range of diverse intellectual disciplines and ideas from disparate languages into Arabic provided the framework in which intellectual activity flourished in various parts of the pre-modern Islamic world. The intellectual products of this activity in Arabic were translated into Latin from the twelfth century onwards (mainly in Spain and Sicily) and were used by philosophers and scientists in their literary works produced in Latin. See Dimitri Gutas, *Greek Thought, Arabic Culture. The Graeco-Arabic Translation Movement in Baghdad and Early 'Abbāsid Society (2nd-4th/8th-10th centuries)* (London: Routledge, 1998).

24. For example, one of the exhibits explained how the method of "suction removal" of cataracts was developed by Al-Mawsili (d. ca. 1100 CE) using a hollow needle; a method, it was claimed, had remained practically unchanged until the middle of the twentieth century.

25. Another section was entitled, "Earth Science" which dealt with mineralogy and meteorology while the "Natural Phenomena" section dealt with the physical causation of the formation of rainbows, clouds and tides. Again, the emphasis throughout the exhibition's commentary was on "observation and experimentation." The "Geography" section deals primarily with exploration and map-making. Here the commentary focused again on "observation" and emphasised the diverse range of maps produced for various audiences: pilgrims, navigators, and explorers on land and sea.

26. The commentary states, "[Translations of] scientific texts, tables of data, and descriptions of instruments from Arabic into Latin provided the foundations for Western pre-modern and early modern astronomy, paving the way for Nicolaus Copernicus's ideas of the sun-centred solar system published in 1543."

27. Whipple Museum of the History of Science, University of Cambridge. Free School Lane, Cambridge, UK, CB2 3RH.

28. David Harvey, "Heritage Pasts and Heritage Presents: temporality, meaning and the scope of heritage studies," *International Journal of Heritage Studies* 7.4 (2001): 319–338, here p. 319.

29. Sally Morgan, "Memory and Merchants: commemoration and civic identity," *International Journal of Heritage Studies* 4.2 (1998): 103–113, here p. 112.

30. See <http://www.bbc.co.uk/programmes/b00gnqck/episodes/guide> and <http://www.bbc.co.uk/programmes/b00gp0gc/episodes/guide> [accessed 9 Feb 2018].
31. Lesley Brown (ed.), *The New Shorter Oxford English Dictionary on Historical Principles: Vol 2: On Historical Principles* (Oxford: Clarendon Press, 1993), Vol. 1, 408.
32. Oktay Aslanapa, *Turkish Art and Architecture* (London: Faber, 1971).
33. This impression is emphasized by the use of the Latinised version of Arabic names such as Albucasis for Abū al-Qāsim Khalaf al-Zahrāwī and Alhazen for Al-Hasan ibn al-Haytham.
34. See Toby Huff, *Intellectual Curiosity and the Scientific Revolution* (Cambridge: Cambridge University Press, 2010).
35. See Peter Morey and Amina Yaqin, *Framing Muslims: stereotyping and representation after 9/11* (Cambridge, MA.: Harvard University Press, 2011. Cf. Elizabeth Poole, *Reporting Islam: Media Representations and British Muslims* (London: I.B. Tauris, 2002).
36. See Jocelyn Cesari, *Why the West Fears Islam: An Exploration of Muslims in Liberal Democracies* (London: Palgrave Macmillan, 2013). See also the essays in Maleiha Malik (ed.), *Anti-Muslim Prejudice: Past and Present* (Abingdon, UK: Routledge, 2010).
37. The use of the 1001 Inventions exhibition as a means by which to counter the “Islam vs. West” narrative is currently being extended to counter prejudice against Muslims in the US; see Karen Pinto, *Teaching Islamic Technology to American Undergraduates: The Importance of 1001 Inventions as a Means to Dispel Islamophobia* (London: Al-Furqan Islamic Heritage Foundation, forthcoming 2018).
38. Sonja Brentjes, “Review: 1001 Inventions: The Enduring Legacy of Muslim Civilization edited by Salim T. S. al-Hassani,” *Aestimatio* 10 (2013): 119–153.
39. Allan Megill, “History, Memory, Identity,” *History of the Human Sciences* 11 (1998): 38–43.
40. Steven Hoelscher, *Heritage on Stage: The Invention of Ethnic Place in America's Little Switzerland* (Madison, WI: University of Wisconsin Press, 1998).
41. Marshall Hodgson, *The Venture of Islam, 3 vols.* (Chicago: University of Chicago Press, 1974), 1:56–60.
42. Ibid, *loc. cit.*
43. See Shahab Ahmed, *What is Islam? The Importance of Being Islamic* (Princeton: Princeton University Press, 2016).
44. Michael E. Pregill, “I Hear Islam Singing: Shahab Ahmed's *What Is Islam? The Importance of Being Islamic*,” *Harvard Theological Review* 110 (2017): 149–165, especially pp. 155–156.