# Knowledge Disembodied: From Paper to Digital Media

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Abstract:

*Print and digital media are believed to have shaken religious authority in the Muslim world, essentially because they popularize and pluralize Islamic knowledge. But how exactly did these novel technologies affect the nature of knowledge production and the behavior of scholars and the public? The pages that follow explore the historical relationship between technological developments and the production and transmission of knowledge over the course of Islamic history, commencing with the adoption of paper and concluding with the spread of digital media. A role-based approach is employed to reflect the* gradual diminishment *of the early methods of knowledge acquisition as "knowledge" came to be commodified according to the market logic of capitalism and subject to mass production and consumption via the technologies of print and electronic media. This approach reflects the interplay between knowledge producers, consumers, and communication mediums. The writer concludes that new media introduces new means of communication and contributes, along with other social, economic, and political factors, to the gradual disintegration of earlier forms of knowledge acquisitions.*

*Knowledge will not give you a part of it until you give it all of yourself.*
(Khaṭīb al-Baghdādī and Khaṭīb 1996, 252)

Mediums are vehicles for transmission of any sort of knowledge. Their structure offers affordances as well as limitations that characterize the manner, volume, and attitude of knowledge transmission. Mediums played an elaborate history in the production of Islamic knowledge that has been susceptible to drastic developments with the integration of

the following mediums: paper, print, and digital media. Orality was the primary mean of knowledge production, which demanded extensive memorization typical of oral culture (Ong 2012, 57). Writing, as a secondary tool, existed on parchment and papyrus until the advent of paper in the eighth century when Muslim merchants traveling along the Silk Road discovered it in China, where paper technology was first invented around the first century C.E. The introduction of this technology into the already flourishing civilization of the Abbasid Dynasty revolutionized the paper market, previously stocked up with cotton-made paper, palm fibers, and expensive parchment. Factories were built to manufacture paper, the number of booksellers spiked, and the dissemination of knowledge broadened to an unprecedented degree resulting in an exponential increase in literacy rates albeit significantly modest in comparison with the consequential literacy of the print technology and the later digital media.

Paper, print, and digital media have expanded the mass distribution of Islamic knowledge. The social interaction with these technological changes is made visible in the teacher–student relationship, the introduction of new merchandise (e.g. bookshops in Baghdad markets and online bookstores), and the creation of new forms of employment. As a result, Islamic knowledge producers and consumers projected multifaceted responses with the integration of each of the above mediums into the social life. To investigate such responses, the writer employs a role-based approach to show how paper, print, and digital media impacted religious knowledge production in Islam. Born in the sociology of automation, the role-based approach, theorized by the organizational theorists Stephen R. Barly, investigates technologically-induced social changes at various levels of analysis that spans individual and dyadic levels of analysis leading up to the overarching level of the whole organization. In so doing, the researcher is faced with several tasks wherein one must:

> […] show how specific technologies influence tasks, skills, and the other nonrelational aspects of work roles. Second,

> researchers must indicate how these changes influence relations among incumbents of different roles. Finally, one would need to examine properties of the organization's social network to determine whether shifting role relations have affected the network's configuration. (Barley 1990, 70)

Following the three levels of analysis, the writer reflects on the agency of individuals situated in their social, political, and economical contexts in line with the media practice theory, which, as Postill explains, sidesteps structural models of media influence as well as individual-centered approaches (Bräuchler and Postill 2010, 6–7). Couldry, a major theorist of the media practice approach, shows how the above-mentioned agency can be addressed in two main questions: "what types of things do people *do* in relation to media? And what types of things do people *say* in relation to media? [emphasis added]" (Couldry 2004, 121). Accordingly, the writer argues that new media introduces new means of communication and contributes, along with other social, economic, and political factors, to the gradual disintegration of earlier forms of knowledge acquisitions. For example, *Isnād* (chain of ḥadīth transmission) was developed partly in response to political and social factors brought about by the sectarian divide and the need to preserve the Prophet's tradition (Muslim ibn al-Ḥajjāj al-Qushayrī 1994, 44) before the introduction of paper in Islam. This rendered the oral memorization of reports with their respective chains of transmission critical, only not to be seen as a necessity due to the paper-saturated market and the recording of reports in ḥadīth compilations. Memorization, as a mean of knowledge acquisition, lost its attraction even more following the invention of print, the worldwide embrace of mass education that increased literacy, and the cloud storage of information on the Internet. As new media unfold, knowledge producers and consumers develop a gradual engagement and heavily rely on them, thus causing earlier means of knowledge acquisition to falter, disembodying knowledge from its human vessels through undercutting memory and advancing abstractive analysis (common in transitions from oral to written culture, as the article shows below), and introducing a novel concept of knowledge; one that

is not entirely distinct from its earlier form but generally integrative of the new media.

## Paper

In a typical setting of an early Muslim knowledge circle, the teacher would orally educate his students on the various disciplines of Sharia through repetitions. Some students would record the narrations of their teachers on parchments that were quite expensive and heavy, thus inaccessible to all students. Admittedly, orality was at the center of early Islamic education though not singularly responsible for its development; writing, too, had a critical role as Toorawa (2005) shows in his study of the bookman *Ibn Abī Ṭāhir*. Goody (1987) in his exploration of the impact of the written Islam on the oral cultures of West Africa, and Robinson (2003, 174) in his explanation of the contribution of writing to Islamic historiography. As for orality, it demanded memorization as a necessary part of the learning process. It was essential for two reasons: (1) to maintain the highest standards in deciding the soundness or rejection of ḥadīth reports; and (2) greater memorization and accuracy were tokens of respected scholars (Maqdisi 1981, 99; Bloom 2001, 97). In this learning model, the labor of memory is strenuous though encouraged by a strong and effective spiritual urge sufficient to energize and produce scholars with prodigious skills of memorization. The available writing tools were the Egyptian papyrus, leaves of palm trees, silk skin, and parchment, all of which were cumbersome (Ibn al-Nadīm and Tajaddud 1971, 22). This created an intimate relationship between the scholars and the students. Consider the following report demonstrating such a relationship: one of the most prominent scholars Shuʿba ibn al-Ḥajāj (C.E. 777) said: "Not have I ever audited any number of ḥadīth reports from anyone except that I have visited them more times than the number of those reports" (Khatīb al-Baghdādī and Khatīb 1996, 289). This reference to the number of visits paid to the scholars reflects the nature of learning at that time. The lack of mediums encourages a close dyadic relationship between the teacher and student, thus fostered both accuracy of delivery and reception of knowledge while decreasing the chance of misappropriation of what is taught. Certainly, there was a considerable level of writing on parchment during the seventh

and eighth century, part of which began at the time of the Prophet and continued until the introduction of paper (Zahrānī 1996, 79).

By the mid-eighth century following the battle of Talas in 751, Ziyad ibn Salih, the Muslim commander, introduced papermaking to Samarqand (Bloom 2001, 9). It had not taken long before the Abbasids realized the potential of paper to catapult the empire into a new era of productivity, whether in the bureaucratic or scholarly domains. As a writing tool paper is light, relatively cheap, foldable, and movable at a quicker pace than any of the previous tools. The Barmakid vizier al-Faḍl ibn Yaḥyā introduced and manufactured paper for documentation of land contracts and other government-related purposes, and it was later embraced in scholarly writing to such an extent that bookshops and stationaries were established to meet the rising demand (Ibn Khaldūn and Wafī 2005, 889). Certainly, the adoption of paper in the scholarly circles was not immediate, simply because the oral culture was suspicious of heavy reliance on paper for scholarly documentation, believing paper to be susceptible to manipulation and distortion, as opposed to the memorization and dissemination of knowledge through oral transmission. Therefore, the Quran was not written on paper but was rather kept in parchments due to a lack of trust in the former. This attitude was similarly embraced by Christians and Jews, all of whom opted to preserve the scriptures on parchment rather than paper (Bloom 2001, 52). However, after paper became pervasive and unavoidable, it became the de facto medium for writing. This lack of trust in paper reflects one of the aspects when religious knowledge is alienated from the heart, a phenomenon that increases with the introduction of new media that occupy an intermediary space between the learner and the internalized material.

Paper began to be manufactured in Samarkand in the Abbasid Caliphate and was later introduced into Baghdad in 794–95, according to the historian Yāqūt al-Ḥamawī. Afterward, paper factories were built in various capitals of the Islamic world such as Cairo, Damascus, Tripoli, etcetera, offering various options for paper quality, influenced by the productions of Baghdad and Samarkand ('Awwād n.d., 420, 428). As a result, new jobs were created in service of the promulgation of paper and the prosperous scholarly life in

Baghdad. Those jobs included copyists, stationers, booksellers, calligraphers, and bookbinders. The paper industry thrived and an independent market for bookselling was established in Baghdad called *Sūq al-Warāqīn* (i.e. a market for selling paper, books, and stationing equipment). This market was a landmark in Baghdad and served as the destination of scholars, literary figures, and government officials, some of whom were scholars themselves.

As Bloom (2001, 12) puts it, paper "had a transformative effect on medieval Islamic civilization, spurring an extraordinary burst of literary creativity in virtually all subjects from theology to the natural sciences and literature." The stationary market was the location where scholars would visit to read, engage in scholarly discussions, and sometimes hold debates. It is reported that the renowned and towering literary figure Al-Jāḥiẓ (d. 868) would rent a bookshop for a whole night solely to read books and he would not leave until he had finished the book (āqūt ibn ʿAbd Allah al-Ḥamawī 1993, 872).

Pragmatic literacy (Van Berkel 2007, 1665) thrived in various domains in the Muslim world. The need for literacy was required to staff government posts and document contracts. Literacy began at an early stage in the *Maktabs* where children were taught elementary reading, writing, and math in order to be later qualified for various careers (Hanna 2007, 188). Hugh Kennedy points out that:

> [...] the circumstantial evidence points to a high degree of literacy far beyond official and secretarial circles. In western Europe in the middle ages, literacy was the preserve of a religious class, but this was not so in the Islamic lands, where reading and writing were widespread through all areas of society. Of course, there were many reasons for this, but one of the most important was that Arabic literacy was useful in this society because it gave access to jobs, and in some cases power. (Kennedy 2017, 99–100)

The manufacturing of paper and the booming business of bookselling boosted rates of literacy because professional opportunities emerged and

had to be filled. Surely, given the aforementioned restraint of scholars towards paper and the increasing reliance on written rather than oral transmission of knowledge, some criteria were needed to maintain the authenticity of knowledge production. For example, a copyist must be educated in Arabic writing skills, dictation rules, and good handwriting. He must also be endowed with an elementary knowledge of the subjects of his labors, and above all recognized as a person of integrity to inspire confidence in his product. Reputable booksellers and copyists whose work claimed high esteem and admiration were in great demand. Still, some scholars undertook the task of copying their work or others' works by their hands to avoid any room for suspicion and maintain high accuracy standards. Once a copyist concludes the transcript, one additional stage is required before publishing the book, namely to compare it with the original manuscript, *Muqāballa*. Another manner was to read the copied version aloud before the author who would authenticate the copy and grant permission of publishing, otherwise called *Ijāza* (Pedersen, French, and Hillenbrand 2014, 47). These are gatekeeping measures to retain the credibility of the written book. Because seeking knowledge *was an end* in and of itself and was encouraged by the Prophet to gain the satisfaction of God, fear of distortion preoccupied Muslim scholars. Books centered on the biographies of scholars, transmitters, copyists, transcribers, poets, and orators were authored for the eventual purpose of authenticating statements and tracing them back to their original producers.

At the overarching level of scholarship, the third layer of analysis, the flourishing Abbasid state attracted increasing numbers of students and scholars from widely diverse backgrounds who traveled to capitals of learning across the Muslim lands. Their numbers were massive, and several changes took place to accommodate such growth. For one, scholars appointed assistants, *Mustamlīs*, to attend to class procedures. Tasks included repetition of the scholars' words to the large crowds of students, some of whom were recording in paper while others were listening and memorizing. At other times, a scholar would hold a public reading of his works where he would read them for his students and for copyists to record. In a later development, students were capable of purchasing books of

scholars they had no contact with, thus engaging in second-hand learning. Books, as a medium, interfered in the relationship between teachers and students, though aided both of them in various ways. For teachers, books attracted larger numbers of students into their circle, which translated into wider popularity and earned some of them an international reputation, not to mention garnering benefit when reading works of their peers and predecessors. For students, books were materialized knowledge that they could read, review, and consult at will. For this reason, strict measures had to be taken to preserve the authenticity of those books against distortions, which did occur. As a result, some of its perpetrators were caught and warned against.

As far as what knowledge producers say and do with regards to the new medium of books, the literature shows how some scholars have cautioned against self-taught students. Saʿīd ibn ʿAbd al-ʿAzīz al-Tunūkhī (d. C.E. 783) said: "Neither seek knowledge from autodidacts, *Ṣuḥufī*, nor learn Quran from a *Muṣḥafī* [who memorized the Quran without the supervision of a teacher]" (Ibn Abu Ḥātīm 1952, 31). To better understand this statement, there is yet another famous quote by the early great scholar Ibn Sirīn that provides a window into understanding why there would be a caution against learning from a self-taught individual. The narration states: "Indeed, knowledge is [part] of faith, so consider carefully from whom you are taking your faith" (Muslim ibn al-Ḥajjāj al-Qushayrī 1994, 42). A self-taught individual who lacks the guidance of a teacher could easily misunderstand and thus misappropriate the text. One should keep in mind that the mass distribution of books at that early stage of book publishing was novel, which spurred such precautions. This also suggests that oral communication and discussions were key to the scholarly formation of students. Religious books, on their own, require not only an interpreter but also the type of interpreter who is steeped in the knowledge of the literature by heart.

On the empirical side, knowledge producers developed a full-fledged system that identifies and assesses reporters of the Prophet's statements and actions known as *ʿIlm al–Rijāl* (biographical assessment of ḥadīth reporters).

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This system was a response to the political expansion of Islam and the increasing mobility of ḥadīth reporters, creating a plethora of narrations whose authenticity must be assessed. Certain criteria were put in place, the most relevant to this article is the necessity of writing down reports for the purpose of accurate delivery and reception. Al-Khaṭīb al-Baghdādī (1975, 64) dedicated a book on documenting knowledge and named it *Taqyīd al-ʻilm* where he presented the opinions of proponents and opponents of ḥadīth writing, concluding that pinning knowledge to writing became necessary as reporters' names and nicknames have swelled beyond the capacity of memorization. Because orality was conjoined to writing, this system was intended to provide a backup to the oral transmission.

As a medium, books transformed the participant structure by augmenting second-hand reception of knowledge through the new agents introduced in the enterprise of religious knowledge production such as stationers, booksellers, copyists, and teaching assistants. Over time, the oral tradition of *Isnād* came to a halt, and reliance on books surged. This can be shown in the diffusion of public and private libraries storing thousands of books, such as *Bayt al-Ḥikmah* (House of Wisdom) and *Dār al-ʻIlm* (House of Knowledge). When contemplating the consequences of the promulgation of the book culture and establishment of libraries, an interesting idea springs to the imagination, namely the *translocation of knowledge* from memory (intangible) to paper (tangible). This translocation made knowledge more accessible for various social classes, transferrable in a book form, and bordered between two covers.

Walter J. Ong (2012, 43–44) showed that transition from orality to writing fosters abstractions and, "separates the knower from the known. By keeping knowledge embedded in the human lifeworld, orality situates knowledge within a context of struggle." In light of this, increasing numbers of books were authored addressing the explanation of the prophetic reports, Qur'anic verses, and jurisprudence. Regarding jurisprudence, the four schools of Sunni Islamic jurisprudence were established and gained popularity not solely by merit of their founders but also through the books authored by their disciples and followers. After

the transition from orality to writing was fully achieved, a new transition appeared on the horizon though much later in time. In the 17th and 18th centuries, the production of religious books predominated the market due to the greater demand of middle-class Muslims (Hanna 2003, 80). Why does this predomination matter? This question will be answered in the following section.

## Print Technology

It should not be misconstrued from the above discussion that books were as widespread as they have come to be following the invention of print. One needs to take into consideration the hours-long endeavor just to produce a single manuscript, let alone a library of titles with several copies of each title. The transition from script to print is unique on its own accord. On multiple occasions in her major work on print, Elizabeth Eisenstein stressed that underestimating the role of print in history can be easily underappreciated because of the rapid technological innovation that renders the print technology an obsolete novelty. She noted that, through the production of printed material, a displacement of the public religious oration, as well as weakening of community ties, ushered in, simply because reading is an individual task while oration requires the gathering (Eisenstein 2005, 131–132). In comparison to script culture, print offers accuracy, standardization, expedient delivery of tasks, less manpower, and most importantly a genuine mass availability of books. However, for the business to succeed, it requires a broad base of readership to consume the printed books. The main consumer of books in medieval Islam was the establishments of religious education that constituted the lion's share of book production and consumption. This educational milieu provided the conducive atmosphere for cultivating students of a high caliber, partly because religious education served as a mean to a decent living and a position in the bureaucracies in the successive Islamic empires. However, as Islamic empires began to decline simultaneously with the increasing campaigns of colonial European powers who brought with them the print technology, the knowledge landscape had been pushed into a foreign arena whose command lies at the hands of the colonizers.

Print began to have a significant impact on the Muslim world in general, and the Arab world in particular, in the 19th century, which was also a period of widespread European colonization. Print did exist in the 18th century in Istanbul but it was vehemently rejected by religious scholars, due in part to its provenance in non-Muslim, Western lands (Robinson 1993, 232). However, colonial rule and the telegraph played a significant role in the mass adoption of print. Thousands of copies of the Quran as well as classical Islamic works were published. Certainly, mass publishing instituted a break in the traditional oral *Ijiza* tied to securing a higher reputation and credibility necessary for attracting a larger base of consumers in favor of copyists and booksellers. (Robinson 1993; Cole 2002)

In order to properly analyze knowledge production in the context of print technology, we should investigate the new environment in which it was present. Certainly, the most relevant social transformation that coincided with print is *mass education* in the Arab world. In 19th century Egypt, for example, Muhammad Ali wished for Egypt to be a modern state including the launching of a countrywide campaign of military conscription. Part of his scheme was mass education required by all society members. In Europe, mass education was meant "primarily to meet the needs of the Industrial Revolution and, in many ways, [that mirrored] the principles of industrial production … [emphasizing] linearity, conformity and standardization" (Robinson 2017, 8). It ignores diversity and prioritizes certain subjects over others. In addition, its goal is to produce agents for the benefit of the state, and therefore new subjects had to be taught alongside religious education. A new system of education was established parallel to the traditional al-Azhar education system. In public schools, religion was packaged as a subject of less favorability due to the state's lack of demand of it. Eickelman noted:

> Modern schooling constitutes a significant break with the earlier emphasis upon the written word, mediated by an oral tradition and oriented toward a mastery of accepted religious texts acquired through study under religious scholars recognized by the wider community. At least in formal terms,

a curriculum of specifically delineated subjects and prescribed texts is taught by a changing array of teachers, and competence is measured by examination. (Eickelman 1992, 650)

Taught as a subject to be graded and stylized to suit the various age groups, knowledge has been reduced to blocks of information whose grasp is only meant to score a good grade. Accordingly, "by propagating a *synoptic* [emphasis added] vision of Islamic belief and practice, sanctioned either by the state or by groups of 'experts' working in the private sector, mass education and its pedagogical materials effectively create a new Islamic tradition" (Starrett 2010, 128). Morocco and Oman, too, have shown similar results of mass education and print as far as witnessing a break in the traditional authority of religiously trained scholars (Eickelman 1992; 1978). Religious knowledge, therefore, has not only been peripheralized but also imbued with a sense of a carefree graspability wherein non-religiously trained graduates of modern schooling can engage religious knowledge by virtue of their respective secular training.

In her assessment of the relationship between teachers and their students, Eisenstein (2005, 689) asserted: "Previous relations between masters and disciples were altered. Students who took full advantage of technical texts which served as silent instructors were less likely to defer to traditional authority and more respective to innovating trends." This writer argues that print would not have gained the significance it had merely due to the mass publication of religious books. For this to have occurred, there must have been a large market for such works, and this market existed by virtue of the nascent system of mass education that expanded the potential readership. Before print, there was a huge industry revolving around books that included professions such as copying, paper and book selling, calligraphers, etcetera. Booksellers located across the Muslim lands were great in number and their business stipulated no conditions for access to books that were plentifully available for purchasers and collectors. What changed at the advent of print was the transformation of the educational environment. Wherein religious knowledge production had been central and predominant, it was now synoptic and relegated to the margins in a system of mass education.

The graduates of this new system were the principal consumers of print materials. Because the technology of print is historically linked to the establishment of the modern state, mass education is a tool well-appropriated for its service and conceivably constitutes the thriving market of printed books covering a wide range of religious and non-religious topics. The concern over the wide availability of books is echoed in major authors of that era, namely, Hasan al-Marsafi who, though open to the idea of modern schooling, advocated for restraint in mass printing and the need for a body of scholars to decide what is to be printed (Mitchell 1991, 132).

Another major break from the traditional authority of religious knowledge is the shifting of the state's priorities. In medieval Islam, the Abbasids were patrons of religious knowledge production, thereby pouring resources for the flourishment of the knowledge enterprise, most remarkable of which was the introduction of paper manufacturing as illustrated above. On the other hand, the modern state has different priorities. Technological innovation imposes a rearrangement of the sciences that receive ultra attention to climb the ladder of creativity faster. Moreover, religious institutions have become a part of a state that dictates the regulations, laws, and terms of recruitment. As part of the centralization of the state, control is necessary at every level, which places reins on the agency of the members of religious institutions. The generous funds that used to be dedicated to the service of knowledge producers are redirected into a new venue that suits the priorities of the modern state. Therefore, admittance and graduation from state-run religious institution schools are necessary to earn a living. This constitutes yet another stride in alienation. That is, displacement, not entirely but largely, of the typical knowledge venue (i.e. Mosque and *Madrasa*) by school classrooms in addition to the isolating nature of textbooks that limits interaction between teacher and student. Though knowledge producers have gained greater access to resources and better chances of production through print, their agency has taken a serious hit by the structural organization of the state.

At the overarching level of scholarship, the teacher–student relationship undergoes a serious reshaping by the admittance of new agents whose behavior and decisions are not necessarily in conformity with the patrons

of religious knowledge production. Conditions meant for accuracy of knowledge transmission either orally or in a written form have been challenged, if not dismissed altogether. A new educated class, print, colonization, capitalistic commercialization driving the economy of print (Anderson 1991), and the declining traditional authority have collectively transformed the dynamics of knowledge production and contributing to the ever-increasing distancing between the teacher and student. This bolsters the tendency of individual interpretation of religious knowledge and the growth of self-learning. The introduction of print eroded paper-created jobs like scribes but slightly reembodied them in professions such as, *Muḥaqiq al-Turāth*, literary editors tasked with editing works of early religious and literary scholars so that they would be published in print form; a job which witnessed prolific contributions by orientalists at the early 20th century (Hārūn 1988). At the level of the enterprise of knowledge production, there has become a notable and exponentially wider claim to the right of the interpretation of religious knowledge, in addition to the ever-increasing non-religious literature printed to meet the demands of the newly-educated masses. Memorization that used to be central to the flourishing of religious scholarship has waned and become undermined.

## Digital Media and the Internet

> *Where is the wisdom we have lost in knowledge?*
> *Where is the knowledge we have lost in information?*
> (Eliot 1934, 7)

In the 1990s and early 2000s, some companies in the Gulf and Iran began distributing and selling text-searchable classic Islamic books in the digitized form of CDs. Later, al-Warraq.net provided such material on the Internet followed by competitive websites uploading a multitude of Arabic resources online. The next phase featured the affordance of those books scanned in PDF format (Zadeh 2016, 18–22). Afterward, large digital libraries crowded the Internet presenting a plethora of material marking the new era of the digital book. Guided by David Hakken's (2003, 34) cautioning against confusing knowledge for information, and heeding T. S. Elliot's

acute distinction between both of them, this section discusses how digital media and the Internet contributed to the alienation of religious knowledge. Admittedly, given the constraint of this paper, the writer limits himself to addressing two elements of this alienation – namely commodification of knowledge and how this drives the technological trajectory towards a manufactured ease of access to information rather than knowledge.

Information is an ocean of data available in print and digital formats and accessible to anyone. Knowledge, on the other hand, is narrowed to the relative personal internalization and learning of such information, thus making the latter an umbrella indexing personal and collective knowledge. Knowledge indispensably mandates training for appropriate acquisition wherein a portion of a large expanse of information is internalized and later reproduced, though emerging in relatively a new fashion, as yet another drop in that ocean of information. Because print technology is fostered by capitalism which seeks to secure large profits, the constant production of material is necessary to sustain the survival of the business. This transformed the character of knowledge and imbued it with an exchange value typical of commodities. In his description of postmodern knowledge, Lyotard noted:

> The relationship of the suppliers and users of knowledge to the knowledge they supply and use is now tending, and will increasingly tend, to assume the form already taken by the relationship of commodity producers and consumers to the commodities they produce and consume – that is, the form of value. Knowledge is and will be produced in order to be sold. (Lyotard and Bennington 2010, 4)

Though the word "knowledge" seems to be confused with information, this model of commodification has persisted into the age of the Internet, fiercer, uncompromising, and gradually replacing the older traditional structure of religious learning. How? Unlike printed books that require individual labor to obtain them in addition to the constraints limiting one's access to reading, the Internet is almost omnipresent in modern-day life. It is accessible through cellphones, computers, tablets, TVs, libraries, and serves

as a platform hosting nearly every profitable service imaginable. For the acquisition of information, there are plenty of reading applications available on all digital devices and they offer an unlimited number of books. However, those apps coexist alongside myriads of other genres competing for global popularity, which requires a full commitment to capitalist-driven marketing.

The Internet is a colossal storage vessel containing titanic amounts of information. In relation to religious knowledge, scholars and orators have their respective websites where they upload their audio and video lectures of book series, while others do live visual lecturing. Numerous Islamic schools, ideologies, dogmas, orientations, and establishments compete for audiences and followers and must, therefore, play by the rules of the capitalist market to attract demand. The spike of all this bodes well for the popularity of promoting websites and nudges it ahead in the large list of results in popular search engines such as Google. "As a result, the religious tradition, which previously could be authoritatively imposed, now has to be *marketed*" (Berger 1991, 173). Part of today's digital religious authority not only stems from knowledge expertise but also extensive financial resources to advertise content and secure precedence in search results boosting numbers of the audience and online visibility. Of particular relevance to the major websites of book production, there are some digital Arabic book libraries such as al-Shamela and Waqfeya that offer resources and depositories free for download for users while their patrons pay handsomely for such services including website hosts, cloud storages, promotions, web developers and technical engineers.

Unlike the early period when Islamic religious education flourished under the various medieval Islamic dynasties and where participants of this enterprise of knowledge received social and financial capital for their contributions and learning, the modern ecosystem of digital media has altered the participant structure of this knowledge enterprise by redefining the roles of the participants. Students were burdened with seeking out teachers and traveling in arduous journeys since early adolescence. Now, the map has changed, and scholarly and oratory figures are required to

reach out and approach the online masses of Internet users while spending huge chunks of money to secure a large audience base and promotion on online platforms. Participants have the opportunity to accept, reject, argue, and contest the range of information presented before them. Another key difference, however, is that a large number of participants in online forums are interacting with *information rather than knowledge*. Because materials are available for consumption on the Internet by all types of users regardless of their educational background and due to the fact that cyberspace affords users the opportunity to engage with that material, one would not expect a scholarly exchange unless one is participating in a pre-determined website structure designated for specialized knowledge and its consumers.

In cyberspace learning, the relationship between the student and the teacher has changed from in-person to virtual. Physical attendance of classes, handwritten notes, and study groups are no longer necessary given the affordances provided by digital devices. Rather than relying on memorization as an effective means (Mueller and Oppenheimer 2014), a virtual keyboard has taken over notetaking and removed the retention of knowledge directly from the teacher and his valuable commentaries. The labor exercised in group learning, journeying to study knowledge, attentive listening to the teacher, taking notes while fearful of losing out on whatever the teacher is saying, and disciplined method of learning have been relegated and replaced virtually.

Students can watch lectures wherever and whenever they so desire and all the information they need is available through a few clicks on their devices. In other words, physical labor and toil have been exchanged for comfort. New media concentrated its mission on comforting the body, relaxing memorization capacities, building a space of debate that privileges analysis of available digital-mediated information at the expense of memorization. An international group of researchers wrote a study addressing the likely effects of the Internet on some of the brain cognitive functions. In relation to the memory, they concluded that "the Internet does not place any responsibility on the user to retain unique information for others to draw upon," and it, "acts as a single entity that is responsible for holding

and retrieving virtually all factual information, and thus does not require individuals to remember what exact information is externally stored, or even where it is located" (Firth et al. 2019, 122).

In addition, methods of reading have even developed, the most attractive of which is skimming. A swift visual scanning of the book involves leafing through its pages to capture the general idea incorporated within. In adapting to the new mediums of digital reading built to advance fast processes and incorporation of large data of information, the mind, as the neuroscientist Maryanne Wolf (2018) indicated, is reoriented to develop a new *reading circuit*. This undercuts critical reading and the graspability of complexity. Skimming is a time-efficient approach to cover as much information as possible but proves ineffective for deep analysis and knowledge internalization. In a study made by the Norwegian psychologist Anne Mangen on the effects of reading on paper versus digital screens in Norwegian schools, she concluded: "reading linear narrative and expository texts on a computer screen leads to poorer reading comprehension than reading the same texts on paper" (Mangen, Walgermo, and Brønnick 2013, 5). Such a technique would not even be conceivable in a scribal culture that forces manuscript readers to painstakingly labor through reading a single manuscript, let alone a number of them.

## Conclusion

The classical argument about the impact of print as well as digital media on the structure of Islamic education is that they have fragmented the authority of *ʿUlamā'* (Eickelman and Anderson 2003; Bunt 2018; El-Nawawy and Khamis 2012) because ordinary Muslims now have access to the very material *ʿUlamā'*. Rather than directing focus towards the empowerment print and digital media facilitated for ordinary people while shrinking the scholars' authority, it is important to draw attention to other changes in social and educational environments that facilitated such an impact. The traditional method of instruction in religious education relied heavily on the body as a depository of knowledge that utilizes the powers of memorization as well as analysis. Memorization was essential before

the discovery of paper because transmission of prophetic reports had to be delivered orally and the role of analysis was manifested in the examination of reports. After the paper was discovered, chains of transmission came to a halt as written records of Sunna emerged and reliance on oral teaching was restricted to the method of instruction. Conditions for the acceptance of any written material were set to guide copyists, booksellers, calligraphers, and others whose professions intersected with paper and knowledge production. The relationship between the student and the teacher remained intact because the system of Ijaza was the recognizable accreditation for teaching. The discovery of paper opened a wide range of professional opportunities, a great chunk of which had religious learning central to its acquisition. In addition, Arabic language standardization lent religious knowledge production an enormous and strategic advantage that inspired the entire Muslim community to engage in the most privileged enterprise, namely religious education, at various levels.

With the inception of European colonialism, the invention of print technology, the spread of capitalism across the global economy, the establishment of the modern nation-state in Muslim countries, and the ensuing mass education, the compass of learning was oriented towards the service of the modern nation. Because the European powers were the globally dominant force, they enforced capitalism and the insatiable hunger for the wealth of the modern nations in the Muslim territories, thereby driving them to alter their needs. Religious learning was packaged in mass education, relegated to mere service of the state, and gave rise to new generations who contest those in traditional religious authority.

Then the virtual cyberspace permeated, if not invaded, all aspects of life, including the religious one. The means that once empowered the enterprise of religious education – such as memorization, journeying and laborious study – have been undermined and composited into a digital screen, allowing consumers to navigate through mega-sized libraries, audio and video lectures, and fabulous tools fostering individual originality. In a manner of speaking, *knowledge has been disembodied from its human vessels* and presented as information on the World Wide Web. The Internet does

save time and effort, but should knowledge-seeking be managed in such a manner? An interesting story is reported about the great scholar al-Ghazālī where his notes were stolen by bandits during his journey to audit from a scholar. The bandits thought his bag had money but there were only his notes. He begged them to return his notes for which he labored in traveling and studying to collect. However, one of them replied: "how do you claim to know what is inside it? We have taken it from you, and you ended up without any knowledge." Al-Ghazālī then realized that notetaking is insufficient to call oneself a scholar. Once he returned, he spent three years memorizing everything he has learned so that he would not be stripped of knowledge if he was raided by bandits in any of his journeys (Nuwaylātī 1958, 9–10). This shows that notetaking is another source of storing information yet without reflecting or internalizing its content. However, it was transformed into knowledge once he memorized them afterward. It can be argued that analysis is a cornerstone of knowledge, and indeed it is. However, the quality of analysis is enhanced by the ready retrieval of information achieved through memorization, thus proving it essential for an erudite scholarship.

To conclude, digital media centralizes individual comfort at the heart of its marketing whereas religious learning demands individual labor to secure it. Therefore, it has been disembodied through successive stages of alienation that began as early as the introduction of print technology in the Muslim world and the enforcement of mass education. The process of alienation continued at full speed with the integration of cyberspace into the social fabric.

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