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Islamization of Natural Sciences

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Abstract

The term "science," rooted in the Latin word scientia, originally signified a broad pursuit of knowledge within the realm of philosophy. Until the early 19th century, disciplines such as physics and chemistry were still considered branches of philosophy, with the term "scientist" only being introduced in 1840 by William Whewell. In contrast, Islamic science has been fundamentally rooted in the Quran and Sunnah for over 14 centuries. Despite the Islamic world's long-standing dominance in global culture and civilisation, by the 19th century, Muslims faced a decline in cultural and scientific leadership, exacerbated by the fall of the Ottoman Empire and European colonisation. Modern Western civilisation, shaped by the Renaissance and Enlightenment, emphasised scientific inquiry and secularism, leading to significant industrial and intellectual advancements. As the Muslim world interacted with this Western paradigm, it struggled to reconcile modern science with Islamic teachings. This struggle is evident in the Muslim world's lag in scientific output, education, and research infrastructure. The ongoing challenge is the Islamization of natural sciences, aiming to integrate Islamic principles with scientific inquiry, addressing the contemporary concerns of scientific illiteracy and fostering a revival of Islamic intellectual tradition in the sciences.

Keywords

Islamic Science; Islamization of Science; History of Natural Science; Philosophy of Natural Science

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Introduction

Despite the progress of science in the Western world, the global issues we face today stem from a prevalent attitude among non-Islamic scientists who often view nature as a force to be conquered, almost as an adversary.[1] This perspective treats nature merely as a resource rather than a divine gift from Allah (SWT). This reductionist approach has led to an immoral and hazardous pursuit of knowledge. Consequently, nature has been significantly altered by modernization and industrialization, driven by the pursuit of comfort, profit, and pleasure.[2] The relentless quest for economic growth has resulted in widespread pollution affecting land, sea, and air. Human actions are primarily responsible for this environmental degradation and the decline in the quality of life for both humans and wildlife. As highlighted in the Quran, "Mischief has appeared on land and sea because of what the hands of men have done, that (Allah) may give them a taste of some of their deeds: in order that they may turn back (from Evil)" (Quran 30:41).[3]

In response to these concerns, some Islamic scientists have advocated for the "Islamization of Science," revisiting foundational Islamic sources such as the Quran and Sunnah.[4] They seek to reinterpret scientific principles and explore new ideas through these texts. This approach reveals additional insights that Islamic scholars can propose, but it is crucial to remember that the Quran and the Sunnah primarily serve as guides for ethical and moral conduct rather than direct sources of scientific

[1] Roxanne Leslie Euben, "A counternarrative of shared ambivalence: some Muslim and Western perspectives on science and reason." *Common Knowledge* 9.1 (2003): 50-77.
[2] Huttunen, Rauno, and Leena Kakkori, "Heidegger's critique of the technology and the educational ecological imperative." *Educational Philosophy and Theory* 54.5 (2022): 630-642.
[3] Imran Hayat, Muhammad Sajad Malik, Muhammad Waris Ali, Muhammad Husnain, Muhammad Sharif, and Abdul Haleem, "The Role of Islamic Environmental Ethics in the Alleviation of Climate Challenges and the Preservation of Ecosystem." *Russian Law Journal* 11.11S (2023): 395-404.
[4] Adi Setia, "Three meanings of Islamic science: toward operationalizing Islamization of science." *Islam & Science* 5.1 (2007): 23-53.

knowledge.[5] As stated in the Quran, "They (Angels) replied, 'Glory be to You! We have no knowledge except what You have taught us. You are truly the All-Knowing, All-Wise'" (Quran 2:32).

Scientific knowledge is vast and categorized into various fields based on their focus.[6] The primary divisions are natural sciences and social sciences. The natural sciences encompass physical sciences, earth and space sciences, and life sciences (biology). Meanwhile, social sciences study human behavior and societal structures, including economics and sociology.[7] Each category includes numerous specialized disciplines, and there is no strict separation between them. Different fields often overlap and draw on each other's information and methods, reflecting the interconnected nature of scientific inquiry.[8]

"Allah created you from dust, then from a drop of sperm, then He made you into pairs. No femaleconceives, nor delivers (a child) except with His knowledge. None is given a long life nor is any diminished in his life but it is written in a Book. Surely that is quite easy for Allah." (Quran 35:11)

This book centers on natural sciences, which explore the rules governing the natural world through empirical and scientific methods.[9] It aims to describe, understand, and predict natural phenomena using evidence from observation and experimentation. Natural sciences are divided into three main branches: life sciences, physical sciences, and earth sciences.[10] These fields collectively focus on uncovering the principles of nature through

[5] Abdurezak Abdulahi Hashi, "Islamic ethics: An outline of its principles and scope." *Revelation and Science* 1.03 (2011): 122-130.
[6] Siu Ling Wong, and Derek Hodson. "From the horse's mouth: What scientists say about scientific investigation and scientific knowledge." *Science education* 93.1 (2009): 109-130.

[7] Laura Colucci-Gray, Anna Perazzone, Martin Dodman, and Elena Camino, "Science education for sustainability, epistemological reflections and educational practices: From natural sciences to trans-disciplinarity." *Cultural Studies of Science Education* 8 (2013): 127-183.
[8] Jordan D.Dworkin, Russell T. Shinohara, and Danielle S. Bassett. "The emergent integrated network structure of scientific research." *PloS one* 14.4 (2019): 1-17.
[9] Salvatore T. March, and Gerald F. Smith. "Design and natural science research on information technology." *Decision support systems* 15.4 (1995): 251-266.
[10] Jurakulov Sanjar Zafarjon Oghly, "Basic philosophical and methodological ideas in the evolution of physical sciences." *Gospodarka i Innowacje.* 41 (2023): 233-241.

systematic study.

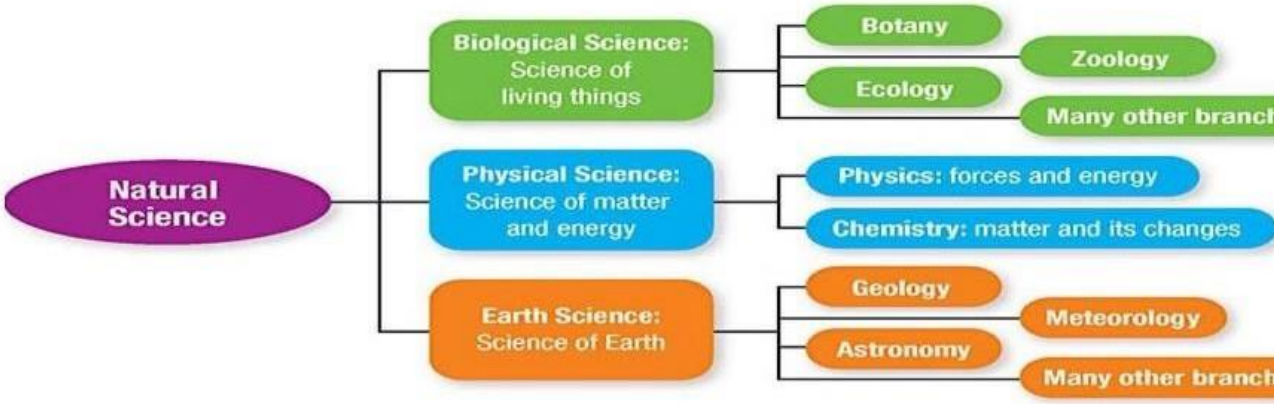

Figure 2: Fields of natural science.[11]

Natural sciences are subdivided into specialized fields, using tools from formal sciences like mathematics and logic. These empirical sciences transform information about nature into measurable data, which can be articulated as clear statements of the "laws of nature".[12]

LIFE SCIENCES (BIOLOGY)

"And made from water every living thing? Then will they not believe?"
(Quran 21:30)

Biology covers various disciplines studying living organisms, from biophysics to complex ecosystems.[13] It focuses on organism characteristics, classification, behavior, species formation, and their interactions with each other and the environment.[14]

[11] BRANCHES OF SCIENCE/https://sreeshmasree.blogspot.com/
[12] Dimitrios Schizas, Dimitris Psillos, and George Stamou. "Nature of science or nature of the sciences?." *Science Education* 100.4 (2016): 706-733.
[13] Sven E. Jørgensen, Bernard C. Patten, and Milan Straškraba. "Ecosystems emerging: toward an ecology of complex systems in a complex future." *Ecological Modelling* 62.1-3 (1992): 1-27.
[14] John J. Stachowicz, "Mutualism, facilitation, and the structure of ecological communities: positive interactions play a critical, but underappreciated, role in ecological communities by reducing physical or biotic stresses in existing habitats and by creating new habitats on which many species depend." *Bioscience* 51.3 (2001): 235-246.

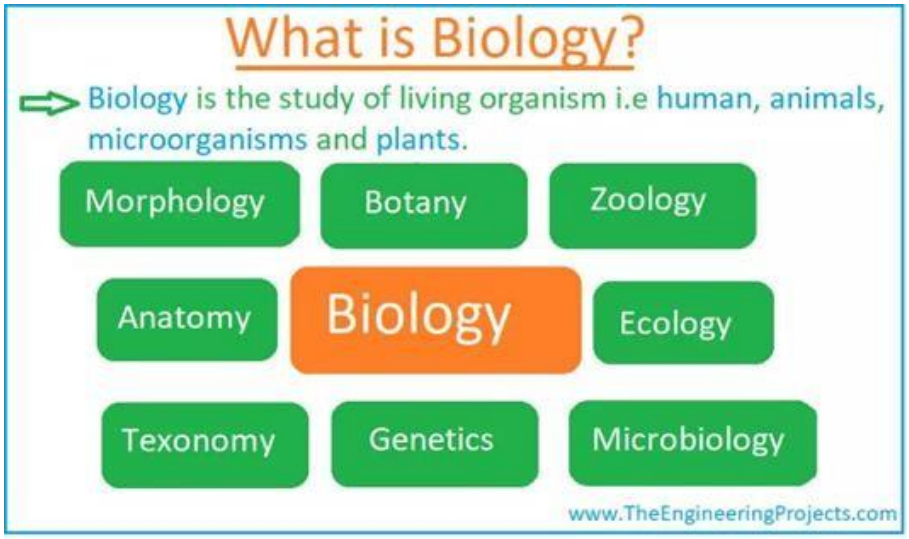

Figure 3: Fields of biology.[15]

"And We created pairs of all things so perhaps you would be mindful"
(Quarn 51:49)

As we know, the Quran is not only a religious but a complete code of life full of guidelines and information about everything. For example, the place of biology in the Quran is very important.[16] First,the blood circulation system and milk production in the human body and animals is one of the most complex things to understand as Allah (SWT) says "And verily in cattle (too) will you find an instructive Sign. From what is within their bodies, between excretions and blood, We produce, for your drink, milk, pure and agreeable to those who drink it" (Quran 16:66). Around 800 years ago, the Muslim scientist Ibn Nafees described a particular physiological system, which William Harvey introduced to the Western world approximately 400 years later. In Islam, seeking knowledge and solutions, including medical cures, is highly encouraged. The Prophet Muhammad (SAW) emphasized this in a hadith: "There is no disease that Allah has created, except that He also has created its treatment" [Sahih al-Bukhari 5678]. The Quran reflects this perspective on animals, with over 200 verses addressing them and six chapters named after animals or insects: Surat 2, Al Baqarah (The Cow); Surat 6, Al Anaam (The Cattle); Surat 16, Al Nahl (The Bees); Surat 27, Al Naml (The Ants); Surat 29, Al Ankabut (The Spider); and Surat 105, Al Fil (The Elephant). Additionally, at least 19 plants with medicinal properties

[15] https://www.theengineeringprojects.com/2021/03/what-is-biology-definition-branches-books-and-scientists.html
[16] Anila Asghar, Salman Hameed, and Najme Kishani Farahani. "Evolution in biology textbooks: A comparative analysis of 5 Muslim countries." *Religion & Education* 41.1 (2014): 1-15.

are mentioned in the Quran, including Camphor, Date palm, Fig, Ginger, Grape, Garlic, Lentil, Olive, Onion, Pomegranate, Summer squash, Sweet basil, Athel tamarisk, Tooth-Brush Tree, Arak, Mustard, Acacia, Cucumber, Leek, and Cedrus. Scientific studies have supported the medicinal benefits of some of these plants, both traditionally and through evidence-based research. However, further investigation is needed to fully explore the therapeutic potential of the other medicinal plants listed in the Quran.[17] This book covers topics related to medicine, botany, and zoology, reflecting these themes.

"You are the best community ever raised for humanity—you encourage good, forbid evil, and believe in Allah. Had the People of the Book believed, it would have been better for them. Some ofthem are faithful, but most are rebellious" (Quran 3:110)

By the 8th century, Europe had descended into the Dark Ages, with the Byzantine Empire being one of the few to retain fragments of ancient knowledge.[18] However, the history of biology continued to advance thanks to the Islamic Caliphate, which provided a stable environment for scholars. Under the patronage of Islamic rulers, these scholars thrived, supported by the establishment of renowned Houses of Wisdom in Baghdad and Damascus.[19] This environment of intellectual patronage enabled the translation of Greek texts into Arabic, preserving Greek wisdom and facilitating its transmission to Europe during the Renaissance.[20] The vast Islamic empire provided the resources necessary to support extensive learning and scholarship,[21] laying the groundwork for significant contributions to biology and science.[22] Influenced by Quranic teachings, Islamic scholars played a crucial role in translating, preserving, and expanding upon ancient scientific knowledge, integrating their own discoveries.[23] Their contributions not only enriched the body of knowledge but also revolutionized medical practices. Innovations from the medieval Islamic era include advanced surgical techniques, sophisticated hospitals, and novel pharmaceutical practices, all of which continue to influence

[17] A. Koshak, Alfaleh, A., Abdel-Sattar, E., & Koshak, E, "Medicinal plants in the holy Quran and their therapeutic benefits." *Planta Medica* 78.05 (2012): P_109.
[18] Averil Cameron, *The Mediterranean world in late Antiquity: AD 395-700*. Routledge, 2015, 9-10.
[19] Ruth Stellhorn Mackensen, "Four great libraries of medieval Baghdad." *The Library Quarterly* 2.3 (1932): 279-299.
[20] George Saliba, *Islamic science and the making of the European renaissance*. Mit Press, 2007, 22.
[21] Jonathan Porter Berkey, *The transmission of knowledge in medieval Cairo: A social history of Islamic education*. Vol. 183. Princeton University Press, 2014, 6-7.
[22] Yasmeen Mahnaz Faruqi, "Islamic View of Nature and Values: Could These Be the Answer to Building Bridges between Modern Science and Islamic Science." *International Education Journal* 8.2 (2007): 461-469.
[23] Asmawati Muhamad, Abdul Halim Syihab, and Abdul Halim Ibrahim. "Preserving human–nature's interaction for sustainability: Quran and Sunnah perspective." *Science and engineering ethics* 26.2 (2020): 1053-1066.

modern medicine. This period stands as a testament to the profound advances in science and medicine that shaped contemporary practices.[24]

Problem and Statement

Islamic hospitals, known as Bimaristans, were groundbreaking institutions that, while not entirely secular, were notably advanced and inclusive, reflecting many aspects of modern hospitals. These institutions were committed to high standards of cleanliness, embracing new technologies, and providing rigorous medical training.[25] They were designed to cater to patients of all ages and socioeconomic statuses, reflecting a commitment to equitable healthcare.[26] Bimaristans featured rooms designated for various types of illnesses, with a critical emphasis on separating contagious diseases from non-contagious ones to prevent the spread of infections.[27] This careful organization was complemented by a strong focus on both personal and institutional hygiene practices, including the use of alcohol as an antiseptic.[28] Within these hospitals, groups of doctors specialized in different diseases, each led by a chief physician.[29] Entry into the medical profession was regulated through examinations, which significantly elevated the standards and regulation of medical practice.[30]

Prominent figures from this era made significant contributions to medicine and pharmacology. Abū-Bakr Muhammad ibn Zakariya Al-Razi was instrumental in the development of chemical devices such as mortars,

[24] Azim A. Nanji, "Medical ethics and the Islamic tradition." *The Journal of medicine and philosophy* 13.3 (1988): 257-275.
[25] Mohammad R. Asad, Mohammed Almansour, Syed Y. Kazmi, Raed E. Alzahrani, Mohammad M. Ahmed, and Mohammed Nazeer, "Educational Paradigms in Islamic Medical History: A Review." *Journal of Pharmacy and Bioallied Sciences* 16.Suppl 1 (2024): S56-S59.
[26] Kassandra I. Alcaraz, Tracy L. Wiedt, Elvan C. Daniels, K. Robin Yabroff, Carmen E. Guerra, and Richard C. Wender. "Understanding and addressing social determinants to advance cancer health equity in the United States: a blueprint for practice, research, and policy." *CA: a cancer journal for clinicians* 70.1 (2020): 31-46.
[27] Shadi Maraqa, Ghassan Al-Dweik, G. Van Moeseke, and A. de Herde, "A Review to Innovative Ventilation Techniques Used in Historical Hospitals in Middle East and Europe." *Resourceedings* 1.2 (2018): 01-16.
[28] D.J. Gould, J. Hewitt-Taylor, N.S. Drey, J. Gammon, J. Chudleigh, and J.R. Weinberg. "The CleanYourHandsCampaign: critiquing policy and evidence base." *Journal of Hospital Infection* 65.2 (2007): 95-101.
[29] Federico Lega, and Carlo De Pietro. "Converging patterns in hospital organization: beyond the professional bureaucracy." *Health policy* 74.3 (2005): 261-281.
[30] https://www.aramcoworld.com/Articles/March-2017/The-Islamic-Roots-of-the-Modern-Hospital

pestles, flasks, and vials, which remain essential in pharmaceutical laboratories today.[31] He meticulously documented drug preparation methods, including distillation, evaporation, and crystallization. His work in Islamic pharmacology emphasized principles of modern organic chemistry, focusing on purity and empirical methods. Similarly, Islamic surgeons were known for their pioneering surgical techniques and innovations in medical tools.[32] Abū al-Qāsim Khalaf ibn al-'Abbās al-Zahrāwī, often called the "father of surgery," authored the Kitab al-Tasrif, an extensive and illustrated guide that became a key resource for surgical students in later generations.[33] His advancements included improvements in surgical methods that reduced mortality rates and the invention of surgical tools still in use today, such as syringes, forceps, bone saws, and casts. Al-Zahrāwī also pioneered techniques for skin incisions, cauterization, and suturing, which continue to be fundamental in modern surgery.[34][35]

Another notable figure, Ibn Al-Nafis, made groundbreaking contributions in the 13th century by describing pulmonary circulation more than 300 years before William Harvey.[36] His insights into cardiovascular physiology were revolutionary for the time. Additionally, Abū al-Qāsim al-Zahrawi's work, particularly the Tasrif, became a cornerstone of medical education in European universities during the Middle Ages.[37] His expertise in pathology, including descriptions of hydrocephalus and other congenital diseases,

[31] Hawa Edriss, Brittany N. Rosales, Connie Nugent, Christian Conrad, and Kenneth Nugent, "Islamic medicine in the middle ages." *The American Journal of the Medical Sciences* 354.3 (2017): 223-229.
[32] Samad E. J. Golzari, Zahid Hussain Khan, Kamyar Ghabili, Hamzeh Hosseinzadeh, Hassan Soleimanpour, Rasoul Azarfarin, Ata Mahmoodpoor, Saeid Aslanabadi, and Khalil Ansarin, "Contributions of medieval Islamic physicians to the history of tracheostomy." *Anesthesia & Analgesia* 116.5 (2013): 1123-1132.
[33] Robert Hernandez Jr, Jennie Lou, Basem Al-Omari, Lujain Aloum, Saly Kanj, Sawsan Ismaiel, and John Rock "Implementation of Learning Communities at Khalifa University College of Medicine and Health Sciences, Abu Dhabi, United Arab Emirates." *Advances in Medical Education and Practice* (2022): 577-583.
[34] Lisa Gfrerer, Edoardo Raposio, Ricardo Ortiz, and William Gerald Austen Jr, "Surgical treatment of migraine headache: back to the future." *Plastic and Reconstructive Surgery* 142.4 (2018): 1036-1045.
[35] https://ihrcanada.com/important-islamic-contributions-to-medicine/
[36] John B. West, "Ibn al-Nafis, the pulmonary circulation, and the Islamic Golden Age." *Journal of Applied Physiology* 105.6 (2008): 1877-1880.
[37] Yazid Abdulrahman Al-Ismail, "Advancements and Impact of Medical Translation During the Golden Age: A Comprehensive Analysis." *Theory and Practice in Language Studies* 14.7 (2024): 2080-2085.

along with his development of new surgical technologies such as catgut sutures, left a lasting impact.[38]

Ibn-Sina, also known as Avicenna, stands out as one of the most influential figures in the history of medicine. His seminal work, *The Canon of Medicine*, is a comprehensive summary of the medical knowledge of his era.[39] This text includes a detailed section on kidney calculi, describing 65 herbal, 8 animal, and 4 mineral medicines beneficial for treating, dissolving, and preventing kidney stones.[40] Ibn-Sina's approach to drug design was highly advanced, focusing on targeted drug delivery, organ-specific actions, pain control, wound healing, and effective clearance after action. His ideas continue to inform modern drug development, offering a historical foundation that aids in reducing the cost of therapies and research.[41][42][43]

Islam promotes a holistic approach to health, encompassing the mind, body, and soul.[44] When Allah (SWT) deems illness or injury as part of our lives, Islam offers guidance on accepting and finding gratitude in these trials. At the same time, Muslims are encouraged to maintain their spiritual, emotional, and physical well-being, recognizing that the human body, as a complex creation, is a trust from Allah (SWT).[45] A true believer appreciates the marvels of the body and combines good health practices with spiritual obligations. Maintaining health is particularly important for fulfilling religious duties such as fasting during Ramadan and performing Hajj, both of which require significant physical endurance.[46]

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[38] Pouya Faridi, Jamshid Roozbeh, and Abdoali Mohagheghzadeh. "Ibn-Sina's life and contributions to medicinal therapies of kidney calculi." *Iranian journal of kidney diseases* 6.5 (2012): 339.
[39] Arman Zargaran, Mohammad M. Zarshenas, Aliasghar Karimi, Hassan Yarmohammadi, and Afshin Borhani-Haghighi "Management of stroke as described by Ibn Sina (Avicenna) in the Canon of Medicine." *International journal of cardiology* 169.4 (2013): 233-237.
[40] Pouya Faridi, Jamshid Roozbeh, and Abdoali Mohagheghzadeh. "Ibn-Sina's life and contributions to medicinal therapies of kidney calculi." *Iranian journal of kidney diseases* 6.5 (2012): 339.
[41] Mohammad M. Sajadi, Davood Mansouri, and Mohamad-Reza M. Sajadi. "Ibn Sina and the clinical trial." *Annals of internal medicine* 150.9 (2009): 640-643.
[42] Thomas Hunt Morgan, Calvin Blackman Bridges, and Alfred Henry Sturtevant. *The origin of gynandromorphs*. Carnegie Inst., 1919, 1-22.
[43] Morgan TH, Bridges CB. The origin of gynandromorphs. Carn Inst Wash Publ 1919; 278:1– 22
[44] Suud Sarim Karimullah, "Holistic Approach in Islamic Education to Improve Mental Health." *EDUCARE: Jurnal Pendidikan Dan Kesehatan* 1.1 (2023): 1-10.
[45] Mahjabeen Ahmad, and Shamsul Khan. "A model of spirituality for ageing Muslims." *Journal of Religion and Health* 55 (2016): 830-843.
[46] Abdelhadi Halawa, "Impact of intermittent dietary restriction on the health-related outcomes of faith-based fasting." *Journal of Ethnic Foods* 7 (2020): 1-10.

Diet and nutrition are crucial for sustaining good health, as is a lifestyle that includes regular exercise. Islam advocates for a balanced diet and physical activity.[47] To effectively practice three of the five pillars of Islam—daily prayers, fasting, and pilgrimage—Muslims must be in good physical condition.[48] The daily prayers themselves provide a form of exercise, involving movements that engage all muscles and joints, while the focus during prayer helps alleviate mental stress.[49]

1. **Early Riser:** Prophet Muhammad (SAW) went to bed early and rose with the Adhan of Fajr. Scientific studies suggest that early risers tend to be more productive and experience better mental health.[50] Although waking up early can be challenging, gradually adjusting your schedule to rise just 15 minutes earlier can improve overall well-being.[51]
2. **Moderation in Diet**: Excessive consumption of food or substances can disrupt normal bodily functions and contribute to various health issues.[52] The Prophet Muhammad (SAW) advised moderation in eating, stating: "The son of Adam never fills a vessel worse than his stomach. The son of Adam only needs a few bites to sustain him; if he insists, one-third should be for food, one-third for drink, and one-third for breathing" [Sunan Ibn Majah 3349]. This balanced approach acknowledges the body's basic needs for water, solids, and air. Research shows that it takes about 20 minutes for the body to signal the brain that it is full, so eating slowly can aid digestion and prevent overeating.[53] The Prophet (SAW) advocated for mindful eating, which helps in consuming less food and improving digestive health. Additionally, sharing meals is encouraged, as communal dining fosters blessings and builds healthy eating habits within families and communities. This practice, highlighted by the Prophet (SAW), also reduces stress and enhances social connections.[54]
3. **Adequate Sleep**: The benefits of proper sleep cannot be overstated.

[47] Mohammad Zakir Hossain, "What does Islam say about dieting?." *Journal of religion and health* 53 (2014): 1003-1012.
[48] Cho Cho Zaw, Myat Min, and Mohd Omar. "Five pillars of Islam in relation to physical health, spiritual health and nursing implications." *IIUM Medical Journal Malaysia* 17.1 (2018).
[49] Kevin S.Masters, and Glen I. Spielmans. "Prayer and health: Review, meta-analysis, and research agenda." *Journal of behavioral medicine* 30 (2007): 329-338.
[50] Allison G. Harvey, "Treating sleep and circadian problems to promote mental health: perspectives on comorbidity, implementation science and behavior change." *Sleep* 45.4 (2022): zsac026.
[51] Carol D.Ryff, Burton H. Singer, and Gayle Dienberg Love. "Positive health: connecting well–being with biology." *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences* 359.1449 (2004): 1383-1394.
[52] Laura M.Plum, Lothar Rink, and Hajo Haase. "The essential toxin: impact of zinc on human health." *International journal of environmental research and public health* 7.4 (2010): 1342-1365.
[53] Bridget Benelam, "Satiation, satiety and their effects on eating behaviour." *Nutrition bulletin* 34.2 (2009): 126-173.
[54] Aisha Ali, and Mujahid Hussain Sargana. "ISLAMIC SATISFACTION MODEL–AN AMALGAM OF RELIGION AND SCIENCE." *Journal of Integrated Sciences* 4.2 (2024).

Allah (SWT) says:"It isHe Who made the night a covering for you, and the sleep a rest, and He made the day to riseup again" (Quran 25:47, also see 30:23). Early Muslims followed a routine of sleeping right after the Isha prayer, waking early for the dawn prayer, and taking short naps during the midday heat.[55] The Prophet Muhammad (SAW) disapproved of those who sacrificed sleep for all-night prayers, advising balance. He said, "Offer prayers and also sleep at night, as your body has a right on you" [Sahih al-Bukhari 1975], and, "Pray while you are active, and sleep when you are tired" [Al-Bukhari and Muslim].

4. **Fasting**: Recent studies highlight that not only the food we eat but also our eating schedules and habits significantly impact our health. Fasting was an integral part of Prophet Muhammad's (PBUH) life, extending beyond Ramadan.[56] He regularly fasted until Maghreb on Mondays and Thursdays, and on the 13th, 14th, and 15th of each month. This practice has been shown to regulate hormone levels, reduce oxidative stress, and lower overall inflammation. When the body is not focused on digestion, it can better concentrate on self-healing and recovery.[57]
5. **Staying active**: Prophet Muhammad (SAW) emphasized the value of physical strength, stating that a strong believer is preferable to a weak one [Sahih Muslim 2664].[58] He advocated for physical health as part of overall well-being, aligning with the belief that Allah (SWT) provides means to achieve it. The Prophet encouraged work, energy, and an early start to the day, contributing to a healthy body. He prayed for blessings in the early morning hours for his nation [Ahmad]. Exercise plays a crucial role in maintaining health, offering benefits such as increased muscle tone, flexibility, endurance, and heart strength.[59] It combats depression, aids weight loss, reduces heart disease, and lowers blood pressure. Additionally, aerobic exercise enhances cardiovascular health and reduces diabetes risk, while weight training builds muscle strength, improves bone

[55] Dana Zarhin, "How religion affects sleep health: exploring the perspectives of religious Muslims and Jews in Israel." *Journal of Sleep Research* 32.4 (2023): e13809.
[56] Zahra Alghafli, Trevan G. Hatch, Andrew H. Rose, Mona M. Abo-Zena, Loren D. Marks, and David C. Dollahite, "A qualitative study of Ramadan: A month of fasting, family, and faith." *Religions* 10.2 (2019): 123.
[57] Joseph C.Cremaldi, and Bharat Bhushan. "Bioinspired self-healing materials: lessons from nature." *Beilstein Journal of Nanotechnology* 9.1 (2018): 907-935.
[58] Wasim Khan, Asif Ali, Salahuddin Khan, and Naveed Yazdani, "Islamic perspective regarding the promotion of health and participation in sports activities." *Journal of Islamic Thought and Civilization* 10.1 (2020): 364-374.
[59] Darren ER Warburton, Crystal Whitney Nicol, and Shannon SD Bredin. "Health benefits of physical activity: the evidence." *Cmaj* 174.6 (2006): 801-809.

density, and alleviates back pain and arthritis.[60]

6. **Drinking water slowly**: Prophet Muhammad (SAW) also advised drinking water slowly, in two or three breaths rather than all at once.[61] Modern science supports this practice, revealing that consuming large quantities of water quickly can cause headaches, electrolyte imbalances, and dizziness.[62] Drinking slowly allows for better fluid absorption and maximizes the benefits.[63]

Islamic traditional medicine, known as Medicine of the Prophet (al-Tibb an-Nabawi), is explored as an alternative or complement to modern treatments.[64] Always consult a healthcare professional before using these remedies, as some herbs may be harmful if used incorrectly or in inappropriate quantities.[65]

1. **Black seed**: Black seed (Nigella sativa), native to Western Asia and unrelated to common spices, belongs to the buttercup family.[66] Prophet Muhammad (SAW) praised it as a cure for all diseases except death.[67] It aids digestion and offers antihistamine, anti-inflammatory, antioxidant, and analgesic benefits, helping with respiratory issues and boosting immunity.[68]
2. **Honey**: Honey is described as a source of healing in the Quran: "There comes forth from their [bees'] bellies, a drink of varying color wherein is healing for men. Verily, in this is indeed a sign for people who think"(Quran 16:69).It is also mentioned as one of the foods of Heaven: "The description of Paradise which the pious have been promised is that in it are rivers of water the taste and smell of which

[60] Gerard D'Onofrio, Jonathan Kirschner, Heidi Prather, David Goldman, and Alan Rozanski, "Musculoskeletal exercise: Its role in promoting health and longevity." *Progress in Cardiovascular Diseases* 77 (2023): 25-36.
[61] Janine Owens, and Wesam Sami. "The role of the Qur'an and Sunnah in oral health." *Journal of religion and health* 55 (2016): 1954-1967.
[62] Amy Price, and Amanda Burls. "Increased water intake to reduce headache: learning from a critical appraisal." *Journal of evaluation in clinical practice* 21.6 (2015): 1212-1218.
[63] ACSM Position Stand, "Exercise and fluid replacement." *Medicine and science in sports and exercise* 39.2 (2009): 377-390.
[64] N. A. Ibrahim, Ashraf Al Alwan, Ahmed Al Eid, Yazeed Al Ghawa, and Maram Al Ghalbi, "Traditional Islamic medicine utilization among adult patients with cancer in Saudi Arabia." *EC Pharmacology and Toxicology* 4.5 (2017): 171-82.
[65] Kelvin Chan, "Some aspects of toxic contaminants in herbal medicines." *Chemosphere* 52.9 (2003): 1361-1371.
[66] Krishnapura Srinivasan, "Cumin (Cuminum cyminum) and black cumin (Nigella sativa) seeds: traditional uses, chemical constituents, and nutraceutical effects." *Food quality and safety* 2.1 (2018): 1-16.
[67] Nazila Isgandarova, "Islamic spiritual care in a health care setting." *Spirituality and health: multidisciplinary explorations* (2005): 85-101.
[68] Hesham R.El-Seedi, Shaden AM Khalifa, Nermeen Yosri, Alfi Khatib, Lei Chen, Aamer Saeed, Thomas Efferth, and Rob Verpoorte, "Plants mentioned in the Islamic Scriptures (Holy Qur'ân and Ahadith): Traditional uses and medicinal importance in contemporary times." *Journal of ethnopharmacology* 243 (2019): 112007.

are not changed; rivers of milk of which the taste never changes; rivers of wine delicious to those who drink; and rivers of clarified honey, clear and pure "(Quran 47:15). The Prophet (SAW) frequently praised honey as a "healing," "blessing," and "best medicine."[69] Modern science confirms honey's antibacterial properties and health benefits. It contains water, sugars, minerals, enzymes, amino acids, and various vitamins that contribute to overall health.[70]

3. **Olive Oil** : Allah(SWT) says "And a tree (olive) that springs forth from Mount Sinai that grows oil, and it is a relish for the eaters"(Quran 23:20). The Prophet Muhammad (SAW) advised: "Eat olives and use their oil, for it comes from a blessed tree." Olive oil, rich in monounsaturated and polyunsaturated fats and Vitamin E, promotes heart health, improves skin softness and elasticity, and helps control blood sugar levels.[71]
4. **Dates** : Dates are traditionally eaten to break the Ramadan fast, as they help stabilize blood sugar levels and provide dietary fiber, potassium, magnesium, and complex sugars. They also promote satiety, helping to control appetite.[72]
5. **Zamzam Water**: Zamzam water, sourced from a spring in Makkah, Saudi Arabia, is rich in calcium, fluoride, and magnesium, essential for health.[73]
6. **Siwak**: Siwak, derived from the Arak tree, is used as a natural toothbrush. Its fibers, often included in modern toothpaste, are rubbed on teeth and gums to enhance oral hygiene and gum health.[74]
7. **Pomegranates**: The fruit pomegranate is mentioned in the Holy Quran as fruit of Heaven as Allah (SWT) says "Therein will be fruits and dates and pomegranates" (Quran 55:68). Pomegranates, thought to be the Prophet's favorite fruit, are now recognized as one

[69] Faquir Muhammad Hunzai, Rashida Noormohamed-Hunzai, Zahir Lalani, and DÀnishgÀh-I. KhÀnah-I. Çikmat, "Book of Healing." (2000), 28,45.
[70] Juraj Majtan, Marcela Bucekova, Ioannis Kafantaris, Piotr Szweda, Katherine Hammer, and Dimitris Mossialos, "Honey antibacterial activity: A neglected aspect of honey quality assurance as functional food." *Trends in Food Science & Technology* 118 (2021): 870-886.
[71] Aimi Solehah Mohamed Iqbal, Muhammad Tahir Jan, Betania Kartika Muflih, and Irwandi Jaswir, "The role of prophetic food in the prevention and cure of chronic diseases: A review of literature." *Malaysian Journal of Social Sciences and Humanities (MJSSH)* 6.11 (2021): 366-375.
[72] Nahla Hwalla, Zeinab Jaafar, and Sally Sawaya. "Dietary management of type 2 diabetes in the MENA region: a review of the evidence." *Nutrients* 13.4 (2021): 1060.
[73] Nauman Khalid, Asif Ahmad, Sumera Khalid, Anwaar Ahmed, and Muhammad Irfan, "Mineral composition and health functionality of Zamzam water: A review." *International journal of food properties* 17.3 (2014): 661-677.
[74] Fayez Niazi, Mustafa Naseem, Zohaib Khurshid, Muhammad S. Zafar, and Khalid Almas, "Role of Salvadora persica chewing stick (miswak): A natural toothbrush for holistic oral health." *European journal of dentistry* 10.02 (2016): 301-308.

of the healthiest foods.[75] They provide manganese for bone formation and potassium for cell function and fluid balance. Rich in flavonoids and polyphenols, they are potent antioxidants that protect against heart disease.[76]

"Read in the Name of your Lord Who created. created humans from Alaq"
(Quran 32:7-9)

The Quran's first revealed words indicate that humanity was created from "Alaq," an Arabic term with an ambiguous meaning. Some interpret "Alaq" as referring to genetic chromosomes made from DNA.[77] Comparing Quranic principles with modern Western science, particularly in human genetics, reveals intriguing parallels.[78] For believers, science and religion are seen as harmoniously intertwined, with science seeking to describe the mechanisms of creation known only to the Creator (SWT). In genetics, an allele is an alternative version of a gene that can produce distinct phenotypic effects. Gregor Mendel's work with pea plants introduced the concepts of "dominant" and "recessive" traits.[79] In autosomal inheritance, a recessive phenotype appears only if both alleles are recessive, while a dominant allele can mask a recessive one. Thus, a recessive trait may be hidden in one generation and reappear in subsequent ones. A similar concept is reflected in a saying of the Prophet Muhammad (SAW). When a desert Arab complained that his wife had given birth to a dark-complexioned child, he disowned the child. The Prophet (SAW) asked if the man's camels had varying colors, and upon hearing that some were darker, he explained that the child's color might be due to inherited genetic traits, referred to as "irq" or strain. This hadith illustrates an early understanding of genetic inheritance and supports the idea that a child's characteristics can stem from ancestors' genetic backgrounds [Sahih Muslim Siddiqui AH, translator. Book 9, Number 3574]. Islam's advocacy for justice and human

[75] Hamid Farhangi, Maryam Ajilian, Masumeh Saeidi, and Gholam Hasan Khodaei, "Medicinal fruits in holy Quran." *International Journal of Pediatrics* 2.3.2 (2014): 89-102.
[76] Nasiruddin Khan, Nasser M. Al-Daghri, A. Al-Ajlan, and Majed S. Alokail, "The use of natural and derived sources of flavonoids and antioxidants in Saudi Arabia." *heart disease* 8 (2014): 9-9.
[77] Mohammad AZ Khan, and Justin C. Konje. "Ethical and religious dilemmas of modern reproductive choices and the Islamic perspective." *European journal of obstetrics & gynecology and reproductive biology* 232 (2019): 5-9.
[78] Taner Edis, "Modern science and conservative Islam: An uneasy relationship." *Science & Education* 18 (2009): 885-903.
[79] Kálmán Tory, "The dominant findings of a recessive man: from Mendel's kid pea to kidney." *Pediatric Nephrology* 39.7 (2024): 2049-2059.

rights aligns with the understanding that two lighter-skinned parents can have a dark-skinned child due to genetic variability.[80] Recognizing these genetic possibilities can help prevent wrongful accusations of paternity and protect individuals from unjust treatment and discrimination, particularly women.[81]

In 1919, Morgan and Bridges discovered that X and Y chromosomes are crucial for sex determination in Drosophila flies. It wasn't until 1959 that the role of these chromosomes in mammals was confirmed.[82] Jacobs et al. demonstrated this in humans, and Welshons and Russell showed similar findings in mice, establishing that the Y chromosome determines maleness. This led to the understanding that spermatozoa, containing either X or Y chromosomes, determine the baby's sex. Meanwhile, the Holy Quran details fertilization in nine stages and further describes when sex is determined in human embryology.[83] Allah says: "And He creates pairs male and female from a drop when it is deposited" (Quran 53:49). This verse makes it clear that the sex of the offspring is determined shortly after a drop of sperm is deposited. This is confirmed for emphasis in the following Quranic verse "⌜For⌝ indeed, We ⌜alone⌝ created humans from a drop of mixed fluids, ⌜in order⌝ to test them, so We made them hear and see" (Quran 76:2).

Closing

Conclusion

The research of Shariah-compliant housing in Malaysia shows that there exist viable market opportunities fuelled by customers' demand for Islamic housing. The need was captured in a survey carried out in the context of this research, where a large number of respondents stated their willingness to pay extra for halal property. This is in light of the possible advantages of increasing the demand for housing that is compliant with Shariah law, not only in Malaysia but in other countries as well that have a considerable Muslim population. But, to realise this potential in its entirety, certain obstacles concerning awareness, financing, and regulation require

[80] Susan Boafo-Arthur, Linda Tsevi, and Jennifer Pellish. "Social justice: a comparative cross-cultural perspective." *SN Social Sciences* 3.10 (2023): 168.
[81] Amber Knight, and Joshua Miller. "Prenatal genetic screening, epistemic justice, and reproductive autonomy." *Hypatia* 36.1 (2021): 1-21.
[82] Scott F. Gilbert, "Bearing crosses: a historiography of genetics and embryology." *American Journal of Medical Genetics* 76.2 (1998): 168-182.
[83] Iftikhar A. Khattak, Niamat Ullah, and Zia U. Din. "Qur-an, human embryology and nutrition." *Saudi medical journal* 27.10 (2006): 1603.

consideration. Such key factors have been highlighted in the case of real-life projects like the Taman Khalifah development.

Self-interest is also seen as one of the key advantages of promoting Shariah-compliant housing. The main advantage is the creation of decent, properly constructed housing that meets the ethical and religious standards of Muslim consumers. This helps in making sure that their choices in houses of their own reflect the belief systems and principles they hold. Moreover, it is also centred on the ideology of Shariah compliance, which can ensure more consumers who want ethical financial practices to buy houses than Muslim people. This integration can at times make the market more inclusive, thereby making it stable for developers and investors.

The enhancement of the economy is also another area of improvement that can be noted as a benefit of the internet. The campaign for Shariah-compliant housing can help the construction and real estate industries grow, thus creating employment in those sectors. In addition, the application of Shariah-compliant rules in the housing sector also helps Malaysia to be a pioneer of the international Islamic banking system. This can attract international investors who may increase the rank and position of the country, which in the long run can improve the economy.

Regarding the challenges mentioned and to optimise all the opportunities for Shariah-compliant housing, two radical steps should be taken. Thus, it is crucial to launch active promotion campaigns to explain the concept of Shariah-compliant housing and the advantages of such products. This may be done through advertising, workshops, and sensitization crusades involving clergy and other influential members of society. Prejudices that have been spread could be corrected through meaningful information, and more people could be made aware and inclined towards getting Shariah-compliant housing.

Second, there is a need to improve the environment of regulation concerning Shariah-compliant housing in the country to standardize. This

also involves coming up with policies and accreditation guidelines that will guarantee that the established housing projects meet the stipulated Shariah requirements. Policymakers should collaborate with industries and scholars in order to establish a coherent and clear regulatory framework. Also, for financial institutions, there should be incentives that steer towards offering and popularising Islamic financing solutions to potential consumers. Implementing the above financing models will require the education and training of financial experts in order to apply the various models.

The Malaysian case of Taman Khalifah described above shows some of the implementation issues and possibilities of Shariah-home financing. This can be seen in some challenges like correctly obtaining the right funding and other related legal concerns; however, the fact that the project was able to market its houses to buyers indicates that there is perhaps an expressed need to build homes that are in sync with the Islamic form of religion. If Malaysia tackles the above-mentioned problems revealed by this research, the country can boost the development of the Shariah-compliant housing market and create an example for other countries.

Therefore, based on the discussion above, the establishment of Islamic housing has immense potential for creating economic, moral, and business values. Nonetheless, to realise these benefits to the fullest, questions related to awareness, financing, and regulation should be solved. The steps that Malaysia needs to take are active and rather radical to promote the idea of Shariah-compliant housing among citizens and establish a strong market demand. Therefore, Malaysia can act as a pioneer and contribute to a better understanding of the potential and problems in other countries. This approach will provide benefits to the real estate field and ensure the enhancement of the application of Islamic principles in actual society to make the actual economy of the global world more ethical and comprehensive.

Conclution

The Islamization of natural sciences represents a critical endeavour to bridge the gap between Islamic intellectual traditions and modern scientific inquiry. Historically, the Muslim world played a pivotal role in global scientific and cultural advancement, deeply rooted in the teachings of the Quran and Sunnah. However, the decline of Islamic civilisation, particularly from the 19th century onwards, coupled with the rise of Western dominance in scientific and industrial fields, has led to a significant disparity in scientific achievements between the Islamic and Western worlds.

This divergence is not merely a result of technological advancements but also reflects the profound philosophical and epistemological differences that have emerged. Western civilisation, shaped by the Renaissance and Enlightenment, prioritised empirical inquiry, secularism, and a worldview often at odds with Islamic principles. As a result, the Muslim world has struggled to harmonise these modern scientific approaches with its own religious and cultural framework.

The contemporary challenges faced by the Muslim world, including scientific illiteracy, low research output, and inadequate educational infrastructure, underscore the urgent need for an approach that integrates Islamic values with scientific knowledge. The Islamization of natural sciences seeks to reclaim the Islamic tradition of knowledge while engaging with the advancements of modern science. This approach offers a pathway for the Muslim world to revitalise its intellectual heritage, contribute meaningfully to global scientific discourse, and address the pressing issues of our time through a framework that respects both religious and scientific principles.

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