

Short Communication

## Science in the Whirlwind of Religion and Power

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### ABSTRACT

This paper examines the interactions among science, religion, and power across historical and social contexts. Science is defined as a systematic effort to build knowledge through testable explanations and predictions, while religion is a system that connects humans with supernatural and transcendental elements. Power, in this context, is understood as a social production that shapes actors' capacities, actions, and beliefs. The paper outlines a crisis of thinking and literacy among scientists, religious scholars, and politicians, who often fail to understand or disregard the relevance of other fields. Various types of relationships between power and both science and religion are described, including power that protects, suppresses, restricts, utilizes, or mediates between the two domains. Additionally, the paper discusses how religion and science can influence or even conflict with each other. Historical examples of the complex interactions between science, religion, and power are provided, showing that harmony among them can lead to progress, while imbalance can result in regression. In conclusion, Muslims need to understand and appropriately position science, religion, and power to avoid secular extremism and ensure balanced development in society.

## 1. INTRODUCTION

Science is the systematic endeavor to build and organize knowledge in the form of testable explanations and predictions about the universe. (Merriam-Webster Online Dictionary). Thus, science does not address supernatural matters such as the creation of Adam, reward and sin, or heaven and hell. Those are matters of religion. Science also does not discuss what cannot be independently tested.

Meanwhile, religion is defined as a socio-cultural system of designated behaviors and practices, morals, beliefs, worldviews, texts, sanctified places, prophecies, ethics, or organizations that generally connect humanity with the supernatural, transcendental, and spiritual elements (Nongbri, 2013), before Religion. However, there is no consensus on what constitutes religion. Therefore, local wisdom or mythology is often also included in "religion."

Power is the social production of effects that determine the capacities, actions, beliefs, or behaviors of actors. Power does not exclusively refer to the use of force by one actor against another, but can also be exercised diffusely. Power can also take structural forms (e.g., the state), commanding actors in relation to each other, and discursive forms, as categories and language can legitimize certain behaviors and groups over others (Barnett & Duvall, 2005). "Power in International Politics.

The term authority is often used to refer to power perceived as legitimate or socially approved. Power can be seen as evil; however, it can also be viewed as something good that helps, moves, and empowers others. In Ihya' Ulumuddin, Imam Al-Ghazali says, "The state and religion are twin brothers. Religion is the foundation, and the state is its protector. Something without a foundation will collapse, and a foundation without a protector will disappear."



## 2. RESEARCH METHODS

This research employs a literature review and discussion methodology to explore the complex interplay between science, religion, and power. The process includes the following steps:

A comprehensive review of existing literature was conducted to gather insights and data on the historical and contemporary relationships between science, religion, and power. Key sources include peer-reviewed journals, books, and reputable articles that discuss the influence of religious and political authorities on scientific progress. The review aimed to identify patterns, conflicts, and synergies that have emerged in various cultural and historical contexts.

Primary sources include historical texts, religious scriptures, and governmental records that highlight specific instances of the intersection of science, religion, and power. Secondary sources involve the analysis and interpretation of primary data by various scholars, providing a broader understanding of the subject matter.

A critical discussion was held to interpret the findings from the literature review. This involved analyzing how different authors approach the topic, comparing and contrasting their perspectives, and synthesizing the information to form a cohesive narrative. The discussion also considered the implications of these relationships on contemporary scientific practices and policies.

The collected data and insights were synthesized to create an overview map of the interactions between science, religion, and power. Analytical tools and frameworks from sociology, history, and philosophy were used to interpret the data and provide a nuanced understanding of the subject.

The findings were organized into a coherent structure, highlighting key themes and providing a detailed analysis of the interplay between science, religion, and power. The results were presented in a manner that facilitates understanding for both academic and general audiences.

## 3. RESULTS AND DISCUSSIONS

### 3.1. Crisis of Thinking & Literacy

We observe that many scientists nowadays are reluctant to think religiously or politically. They view religion as leading only to stagnation, not progress. Meanwhile, scientists rarely show interest in politics. For them, it is enough to continue working, while politics is left to the politicians.

Meanwhile, many religious scholars are reluctant to think scientifically and politically. Many religious scholars are ignorant of science, believe in flat-earth conspiracies, deny the existence of the COVID-19 pandemic, and, on the other hand, participate in anti-vaccination campaigns. Moreover, they are ignorant of politics, often failing to recognize when political adventurers exploit them to gain power.

Unfortunately, many politicians are reluctant to think scientifically and religiously, resulting in many political decisions that are totally erroneous scientifically and idolatrous according to religion, even oppressing some religious communities. For these politicians, religious scholars are used to expand grassroots support, and scientists are mobilized to provide academic legitimacy to power.

Figure 1 shows a map of the relationship between science, religion, and power. Figure 1 is detailed in Table 1.

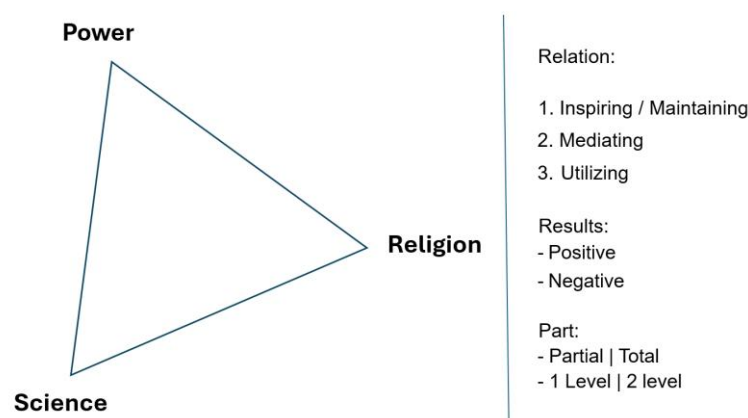


Figure 1. The relationship between science, religion, and power

Table 1 provides an overview of the relationship among power, religion, and science. The following sub-section will detail the contents of Table 1

Table 1. The Relation between Science, Power, and Religion

Independent variable	Dependent variable		
	1. Power	2. Religion	3. Science
1. Power		12a. Power to protect religion "Power-sponsored Religion" 12b. Power to silence religion 12c. Power to limit religion 12d. Power to exploit religion 12e. Power to mediate religion	13a. Power to protect science "Power sponsored science" 13b. Power to silence science 13c. Power to limit science 13d. Power to exploit science 13e. Power to mediate science
2. Religion	21a. Religion legitimizes power "Religion legitimized power" 21b. Religion criticizes power 21c. Religion mediates power		23a. Religion inspires Science "Religion inspired Science" 23b. Religion is hostile to Science 23c. Religion makes use of Science
3. Science	31a. Science supports power "science-based policy" 31b. Science criticizes power 31c. Science mediates power	32a. Science supports religious dogma: "science legitimized religion." 32b. Science rejects religious teachings 32c. Science reinterprets religion 32d. Science mediates religion	

### 3.2. Power Over Religion and Science

There are several types of relationships in which power is the independent variable.

- Power protects religion. This was the case from the Holy Roman Empire to the Ottoman Empire. Power also protects science. Some sciences are facilitated and funded by the state.
- Power suppresses religion. This happens in communist countries like North Korea or the former Soviet Union. On the other hand, power sometimes suppresses science, especially its scientists who are critical of the rulers' policies.
- Power restricts certain religious views in the private sphere, while the public sphere must be free from them. It is permissible for public rules to derive from religious teachings, but only those that have been legalized. Power can also restrict science. Only certain sciences are free to be studied or developed. For example, some local wisdom is still considered pseudoscience and is not yet eligible for research funding.
- Power exploits religion. Rulers select specific religious teachings that are considered to strengthen their power, such as Muawiyah's statement that "The caliph must be Quraysh." However, Ibn Khaldun later regarded this as merely a matter of preference. Power also exploits certain sciences to solidify colonialism. For instance, superpower countries limit nuclear experiments after they already possess them.
- Power mediates religion when there are conflicting views. Here, the principle "Amrul Imam Yarfa'ul Khilaf," or the ruler's decision, resolves the disagreement. Likewise, power mediates science, determining which forms of science are considered legal. For example, scientists disagree about the safe speed limit on highways. Some countries adopt a maximum of 130 km/h, others 100 km/h.

### 3.3. Religion and Science for Power

Meanwhile, when religion or science becomes the independent variable:

- Religion legitimizes power, giving it justification from both texts and institutions. The outcome depends on whether the power is just or unjust. If justice is just, preaching is more straightforward; if injustice is unjust, preaching is more difficult. Examples are Europe in the Dark Ages and the Caliphate during its decline. Science can also support power through academic studies, enabling decisions to be scientifically justified. If the outcome is poor, it will create antipathy toward science.
- Religion distances itself from power. Some scholars keep their distance from power, refuse to become officials, or remain critical of power wherever they are. Science does the same when decisions contradict science, such as allowing dangerous goods to circulate or mishandling a pandemic.
- Religion and science can also mediate conflicts of power. Religion can show lessons from the Prophet's traditions, companions, or history. Science can objectively show the impact of political choices, such as election systems.

### 3.4. Interaction of Religion and Science

- (a) Religion can inspire science, but this can be a blunder when science gets caught in "interpretative science," such as the flat-earth interpretation. However, it can also be a blessing when science is limited to ontological and epistemological inspiration, as during the Caliphate era. Conversely, science can support religious dogma. In the past, the limitations of scientific findings were used to reinforce religious dogma, such as religion seemingly justifying racism (as occurred among the Jews).
- (b) Religion opposes science, as happened in the Dark Ages, when some scientific discoveries were considered contrary to scripture. This also occurred in the Islamic world when some scholars misunderstood philosophy, either idolizing it or demonizing it (resulting in a decline in the enthusiasm for learning science). Some Muslims assume that Islam only aims to improve faith and morals, rejecting the understanding of pandemics or natural disasters from a scientific perspective. Conversely, science sometimes rejects religious dogma. This often occurs in secular countries when scientific findings conflict with Biblical teachings, such as carbon dating results and discoveries in astronomy and astrophysics.
- (c) Religion utilizes science to support the implementation of Sharia according to the principle "What cannot be completed without it, is obligatory." Science supports worship, such as prayer times and halal inspection technology. However, there are still differences in some Sharia issues, such as moon sighting, CCTV applications, expert witnesses, blood transfusion, and DNA testing. Conversely, science encourages the reinterpretation of religion. Science can help provide accurate interpretations of certain ambiguous verses, such as the "seven heavens" and "Lailatul Qadar," as well as phenomena like overpopulation, climate change, and Industry 4.0.

Interestingly, science can sometimes mediate religious scholars' differences, such as whether a human can impregnate an animal, whether the Earth is round or flat, whether it orbits the Sun or vice versa, and whether Lailatul Qadar is an objective natural phenomenon or a subjective spiritual phenomenon.

### 3.5. Complex Whirlwind (Two Levels)

Sometimes, the interaction between science, religion, and power is quite complex. For instance, there have been times when religious figures influenced power and pressured science, or vice versa, when scientists influenced power and pressured religion. This can be either good or bad (Figure 2).

Suppose the relationship between religion and science is poor. In that case, it can result in situations like the Dark Ages (when religion wielded power to suppress science) or the communist era (when science wielded power to suppress religion). However, if the relationship between religion and science is harmonious, then they support each other through power. This was the case during much of the Caliphate era. Muslims must learn to position science, religion, and power appropriately. Missteps in this regard can cause the community to stray further from science or religion, increasing the risk of solidifying secularism.



**Figure 2.** Illustration of activities in Baitul Hikmah, where the rulers listened to scientific and religious experts [http://www.muslimheritage.com/article/house-of-wisdom]

## 4. CONCLUSION

The intricate dynamics among science, religion, and power offer significant insights into how each domain influences and shapes the others. Our research, employing a literature review and discussion methodology, has underscored several key interactions:

1. **Power's Influence on Religion and Science.** Power can protect, suppress, restrict, exploit, or mediate religion and science. Historical examples illustrate these dynamics, such as power protecting religion in the Holy Roman Empire or suppressing science in the former Soviet Union. The mediation role of power often aims to resolve conflicts between religious or scientific views.
2. **Religion and Science's Role in Power.** Religion can legitimize, critique, or mediate power. Similarly, science can support or criticize power, offering a foundation for scientifically justified policies. This dynamic is evident in various political and historical contexts, highlighting the importance of an independent and critical scientific community.
3. **Interaction Between Religion and Science.** Religion can inspire, oppose, or utilize science, while science can support, reinterpret, or mediate religious teachings. The relationship between these two domains is complex and multifaceted, with potential for both conflict and synergy. Historical instances of mutual support, such as during the Caliphate era, contrast with periods of opposition, like the Dark Ages.
4. **Complex Whirlwinds of Interaction.** The interactions between science, religion, and power can be highly complex, with each domain influencing the other in multiple ways. This complexity can result in both positive and negative outcomes, depending on the nature of the relationships.

Understanding the nuanced interplay between science, religion, and power is crucial for navigating contemporary scientific practices and policies. A balanced and harmonious relationship can foster progress and enlightenment, while discord can lead to suppression and conflict. Societies must learn from historical precedents and strive for a collaborative approach that respects the unique contributions of each domain. This understanding is essential for addressing the challenges of the modern world and ensuring a just and informed society.

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