Dietrich Jung

Abu Hamid al-Ghazali and Niklas Luhmann:

Boundary Negotiations Between Religion and Science in the Abbasid Empire

UNIVERSITÄT
LEIPZIG

DFG Deutsche
Forschungsgemeinschaft

Contents

Abu Hamid al-Ghazali and Niklas Luhmann: Boundary Negotiations Between Religion and Science in the Abbasid Empire

1 Introduction: From Academic Celebrity to Religious Seclusion

In November 1095, the eminent Islamic religious scholar Abu Hamid al-Ghazali (1058–1111) left the Abbasid capital Baghdad for a journey that was long in both geographical and mental terms. Biographers of Ghazali refer to this part of his life as a period of seclusion.[1] Over the course of two years, he travelled to Damascus, Hebron, Jerusalem, and to the holy cities of Mecca and Medina in the Hejaz, before briefly returning to Baghdad in 1097. After this, Ghazali spent the rest of his life teaching and writing in isolation in Tus and Nishapur, in his home region of Khorasan, in what is today Iran. One of his biographers, Eric Ormsby, describes Ghazali as a "religious genius," whose work was characterised by a "distinctive originality."[2] Without a doubt, Ghazali is one of the most significant thinkers in the history of Islamic ideas. He originally came to Baghdad from Isfahan in July 1091, taking up the prestigious position of professor at the Nizamiyya Madrasa, a leading Islamic institute of higher learning of the Abbasid Empire.[3] He was appointed by Nizam al-Mulk (1018–1092), the Grand Vizier of the Seljuq Sultan, who exerted de facto political control over the Abbasid Caliphate until his assassination.[4] While a professor at the Nizamiyya, Ghazali frequented the courts of both the Caliphate and

---

[1] The precise dates of Ghazali's birth and death are somewhat unclear, and are disputed in the literature. For a discussion of his biographical details, see the introduction to Frank Griffel, *Al-Ghazali's Philosophical Theology* (Oxford: Oxford University Press, 2009).

[2] Eric Ormsby, *Ghazali: The Revival of Islam* (Oxford: One World, 2008).

[3] The institution of the madrasa has changed in character over time, and should not be conflated with the modern concept of a university. Generally speaking, it combined a mosque with a school – often a boarding school for students who were primarily engaged in learning the classical Islamic sciences: jurisprudence, theology, Quranic interpretation, and knowledge of the traditions. Increasingly, however, some of them also engaged with the 'empirical sciences' of their times. For a study on the institution of the madrasa in Islamic history, see Ebrahim Moosa, *What is a Madrasa?* (Edinburgh: Edinburgh University Press, 2015).

[4] Griffel, *Al-Ghazali's Philosophical Theology,* 34.

of the Sultanate, maintaining close contact with the Caliph, the Sultan and the Grand Vizier.[5] During his years in Baghdad, he enjoyed a degree of academic celebrity and the highest level of political protection. Why, then, did he leave this comfortable position and withdraw from the world?

In his autobiographical work *Deliverance from Error*, Ghazali tells us about the crisis that eventually caused him to leave Baghdad – a "crisis of indecision," which began in July 1095. At its core was Ghazali's internal debate over whether he should give up his glamorous teaching position to instead follow a spiritual religious path. This mental crisis expressed itself in severe health problems, culminating in his losing the ability to speak, and being hardly able to swallow and therefore to adequately nourish himself.[6] The subsequent period of seclusion was chosen as a remedy to this crisis.[7] In academic literature, there are ongoing disagreements about the real motivation behind Ghazali writing *Deliverance from Error*. For some, this text represents the sincere confession of a religious wanderer on his path to spiritual fulfilment.[8] For others, Ghazali's autobiography is the self-justification of an intellectual elitist.[9] These scholarly disagreements are irrelevant to this essay, however. I do not intend to provide a new answer to this debate, and my paper does not aim to make any direct contribution to the study of the life and work of Ghazali.

In the context of my involvement with the CASHSS[10] Multiple Secularities – Beyond the West, Beyond Modernities' research programme,

---

5   Ghazali came to Baghdad under the protection of Nizam al-Mulk, who was also born in Tus. Nizam al-Mulk became known for founding a number of *madrasas*, a new form of educational structure. Albert Hourani*, Die Geschichte der arabischen Völker* (Frankfurt am Main: Fischer, 1992), 192.
6   Griffel, *Al-Ghazali's Philosophical Theology*, 42.
7   Albert Hourani points out that *Deliverance from Error* is not a classic autobiography, but rather the description of the supposed transformation in Ghazali's thought. Hourani*, Die Geschichte*, 217.
8   Richard J. McCarthy, *Freedom and Fulfillment: An Annotated Translation of Al-Ghazali's Al-Munqidh Min Al-Dalal and Other Relevant Works of Al-Ghazali* (Woodbridge: Twayne Publishers, 1980); Duncan B. MacDonald, "The Life of al-Ghazzali with Especial Reference to His Religious Experiences and Opinions," *Journal of the American Oriental Society* 20 (1899): 71–132.
9   Chase F. Robinson, *Islamic Civilization in Thirty Lives* (London: Thames and Hudson, 2016).
10 Centre for Advanced Studies in the Humanities and Social Sciences, Leipzig University, funded by the German Research Foundation (DFG).

I chose Ghazali's autobiography, and in particular his "crisis of indecision," as an example of a pre-modern negotiation of the boundaries of religion at the micro level. The research programme suggests employing the analytical concept of secularity to investigate both non-Western and pre-modern forms of secularity, in terms of conceptual distinctions and institutional differentiations between religious and non-religious social spheres.[11] In this essay, I would like to propose a method of pursuing these goals from my own theoretical perspective. More specifically, I will argue that in Ghazali's reflections on spiritual religiosity, theology, philosophy and science, we can discern the individual engagement of a prominent Muslim thinker with emerging communicative realms. In the Modern Systems Theory of Niklas Luhmann, these realms are taken to represent functionally differentiated subsystems of modern society.

Of course, Ghazali was not a modern thinker, and in this regard my analysis is utterly anachronistic. This anachronism is intentional, however, as I will be applying theories of emergence. Theories of social emergence deal with the rise of new levels of social reality, without locating a fixed origin in time or space. Therefore, I will deliberately try not 'to avoid anachronisms,' instead using them as a means in a heuristic research process.[12] The search for the emergence of modern boundary negotiation in the Abbasid Empire ties in with the desire to deprivilege Europe in our understanding of the global rise of modernity. Even more importantly, it forms part of an attempt to strip away the hegemonic and Eurocentric presuppositions that locate the historical origin of modernity in Europe. In this way, the aim of my essay is first and foremost to make a theoretical contribution to the research programme on Multiple Secularities. With my argument here, I seek to support the claim that we can observe processes of social differentiation between religious and non-religious spheres "in non-Western, early and premodern contexts."[13] Abu Hamid al-Ghazali

11 Christoph Kleine, and Monika Wohlrab-Sahr, "Preliminary Findings and Outlook of the CASHSS 'Multiple Secularities – Beyond the West, Beyond Modernities'," *Working Paper Series of the CASHSS "Multiple Secularities – Beyond the West, Beyond Modernities"* 22, Leipzig University, 2020, 3.
12 Cf. Kleine, and Wohlrab-Sahr, "Preliminary Findings," 16.
13 Markus Dressler, Armando Salvatore, and Monika Wohlrab-Sahr, "Islamicate Secularities: New Perspectives on a Contested Concept," *Historische Sozialforschung* 44, no. 3 (2019): 10.

wrote his *Deliverance from Error* at a time in which the power of the Islamic empires was superior to that of European actors. The impact of Europe on Ghazali is, if at all, only traceable in his reading of Platonic and Aristotelian philosophy and the thoughts of the Greek physician Galen.[14] As such, this case study analyses developments in the Islamic history of ideas long before European colonial influence, and thus before the concomitant 'importation' of modern European social thoughts and institutions. In interpreting Ghazali's autobiography through the lens of Luhmann's Modern Systems Theory, however, I do not claim to be making a contribution to the ongoing research on the life of this outstanding Muslim scholar, as I lack the necessary scholarly expertise in this field. Instead, I use the example of this pre-modern Islamic thinker as a means of illustrating my theoretical argument about the emergent nature of global modernity. His life and work provide suitable material for the search for traces of elements of functional differentiation, in terms of non-teleological evolutionary and – in Luhmann's terms – first preadaptive advancements of modern society. I look at the historically contingent emergence of social patterns, which we, in retrospect, could designate as indigenous first moves in the direction of modern social differentiation.

I will outline my argument in five stages. Following this introduction, I will briefly sketch out my general theoretical framework.[15] This is based firstly on Luhmann's concept of modern society, whilst secondarily also being anchored in the metatheoretical context of socio-cultural evolution, with its related concept of social emergence. These two theoretical perspectives will guide my observations of social boundary demarcations on the micro level. In a third step, I will conduct a brief analysis of Ghazali's autobiographical

---

14 Greek philosophy reached Ghazali mainly through the readings of Islamic philosophers such as Kindi (870), Farabi (872), and Ibn Sina (Avicenna, 1037). The very same philosophers who were later subject to his staunch critique. Bernd Radtke, "Der sunnitische Islam," in *Der Islam in der Gegenwart,* ed. Werner Ende, and Udo Steinbach (München: C.H. Beck, 1989), 62. See also Kenneth Garden, *The First Islamic Reviver: Abu Hamid al-Ghazali and his Revival of the Religious Sciences* (Oxford: Oxford University Press, 2013).

15 I presented my approach to a global sociology of modernity as illustrated by Islamic history in more detail in two books: Dietrich Jung, *Muslim History and Social Theory: A Global Sociology of Modernity* (New York, NY: Palgrave Macmillan, 2017); and Dietrich Jung, *Der Islam in der globalen Moderne: Soziologische Theorie und die Vielfalt islamischer Modernitäten* (Wiesbaden: Springer VS, 2021).

text, and its implicit discussion of religious and non-religious spheres. In this analysis, I refer to the English translation of Ghazali's Arabic text by Richard McCarthy.[16] The subsequent section discusses my findings in light of the development of science as a subsystem of modern society. Historically, Ghazali played a key role in the so-called 'Golden Age' of Islamic science, which I understand as an intrinsic part of the rise of modern science. Finally, I draw some conclusions with respect to more general questions from the CASHSS Multiple Secularities' research programme.

2 Modern Systems Theory: Modernisation as Functional Differentiation

The theoretical ideas of Niklas Luhmann follow the sociological tradition of theories of differentiation from Emile Durkheim to Talcott Parsons. In this sense, his theoretical edifice matches with the CASHSS' research programme's "plea for a differentiation-theoretical perspective."[17] However, in combining theories of functional differentiation with those of self-reference and the hermeneutical tradition in German philosophy, Luhmann differs from the sociological mainstream tradition in a decisive way. He did not understand differentiation as a kind of decomposition of a social whole. Instead, he applied differentiation theory from the perspective of social emergence.[18] In Luhmann's theory, the socio-cultural evolution of a modern plurality of social realms is no longer explained in terms of the functional demands of a social whole.[19]

---

16 McCarthy, *Freedom and Fulfillment*. I am well aware that using a translation of the text runs the risk of implementing an additional layer of anachronistic use of terms and concepts. However, not being an expert on medieval Arabic literature my own translations would be far worse.

17 Christoph Kleine, and Monika Wohlrab-Sahr, "Preliminary Findings and Outlook of the CASHSS 'Multiple Secularities – Beyond the West, Beyond Modernities'," *Working Paper Series of the CASHSS "Multiple Secularities – Beyond the West, Beyond Modernities"* 22, Leipzig University, 2020, 8.

18 Whether we can indeed describe Luhmann's Modern Systems Theory by the term social emergence, however, is somehow disputed, see: Dave Elder-Vass, "Luhmann and Emergentism: Competing Paradigms for Social Systems Theory?," *Philosophy of the Social Sciences* 37, no. 4 (2007); Bettina Heintz, "Emergenz und Reduktion: Neue Perspektiven auf das Mikro-Makro-Problem," *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 56, no. 1 (2004); Simon Lohse, "Zur Emergenz des Sozialen bei Niklas Luhmann," *Zeitschrift für Soziologie* 40, no. 3 (2011); Poe Yu-Ze Wan, "Emergence à la Systems Theory: Epistemological *Totalausschluss* or Ontological Novelty?," *Philosophy of the Social Sciences* 41, no. 2 (2011).

19 Uwe Schimank, *Differenzierung und Integration der modernen Gesellschaft.*

The systemic subdivision of modern society into autonomous functional systems such as arts, economics, law, politics, religion and science is the result of the contingent evolution of modern society as an all-encompassing global system of communications. Therefore, it is possible to ascribe functional equivalents to each modern subsystem.

Modern society in this construction is, therefore, not a corporate actor constituted by its single parts. The properties of its parts are different from the 'whole'. Consequently, there can be no system that can claim representation of society as a whole. The subsystems of modern society operate according to their own communicative codes, which have established themselves through processes of operational closure. While these "autopoietic" social systems need inputs from their environments, they transform these inputs into specific elements of their own particular and self-referential communicative logic.[20] Designating the social realms of modern society in this way, Luhmann was following a very rigid form of self-reference whose ontological quality is questionable. I am not going to discuss this problem further here, but instead use his theory to facilitate my observations in a heuristic sense.[21] In my analysis of Ghazali's *Deliverance from Error*, I will focus on the boundary demarcation between religion and science. In what ways did Luhmann define the communicative codes of these two social subsystems? How does Luhmann conceptualise secularisation?

For Niklas Luhmann, secularisation is synonymous with the emergence of functional differentiation as the dominant modus of differentiation in modern society.[22] The concept of secularity applied by the Multiple Secularities research programme describes religion's societal environment, in which religion takes the position of an observer. Consequently, based on its own communicative code, religion observes the world as becoming

Beiträge zur akteurszentrierten Differenzierungstheorie 1 (Wiesbaden: VS Verlag, 2005), 44–47.

20 Luhmann comprehensively presented his theoretical approach for the first time in *Soziale Systeme* (Frankfurt am Main: Suhrkamp, 1987). He later published his Modern Systems Theory in a revised form in the two volumes *Die Gesellschaft der Gesellschaft* (Frankfurt am Main: Suhrkamp, 1998).

21 I discuss questions about Luhmann's theory of autopoietic systems in: Dietrich Jung, *Der Islam in der globalen Moderne: Soziologische Theorie und die Vielfalt islamischer Modernitäten* (Wiesbaden: Springer VS, 2021).

22 Niklas Luhmann, *Die Religion der Gesellschaft* (Frankfurt am Main: Suhrkamp, 2002), 126.

non-religious or secular.[23] The discourse around secularisation, then, is the engagement of religion with the increasing autonomisation of non-religious social domains such as the arts, economics, law, politics, or science. Luhmann makes the heuristic assumption that, historically, religion was the first modern communicative system to become differentiated through its operational closure with respect to other emerging social systems.[24] Religious communication looks at worldly affairs in terms of the binary code between transcendence and immanence.[25] Luhmann rejects previous functionalist theories, according to which religion plays an essential role in the integration of society. In his eyes, modern religion is not characterised by a loss of function, instead taking on its modern contours and its particular function due to its operational closure as a self-referential system of religious communications.[26] The concept of religion thus refers to a clearly identifiable functional subsystem of modern society, which has gained its relative autonomy through a specifically religious code of communication. In *Religions in Global Society*, the Canadian sociologist Peter Beyer builds on this basic assumption by Luhmann. According to Beyer, religious communication is based on binary codes such as transcendent/immanent, sacred/profane or blessed/cursed.[27] In a process of global entanglement, religious communication identified a number of sets of authoritative traditions as mutually acknowledged religions. These "religious programs," in Beyer's terminology, appear as specific belief systems, based on textual, symbolic and ritual sources, forming a global system of 'world religions' such as Buddhism, Christianity, Hinduism, Islam, and Judaism.

According to Luhmann, the modern system of science is the evolutionary product of a second-order observation, rendering possible the distinction between true and untrue knowledge.[28] We can observe

23 Luhmann, 282–89.
24 Werner L. Schneider, "Religion und funktionale Differenzierung," in *Soziale Differenzierung: Handlungstheoretische Zugänge in der Diskussion*, ed. Thomas Schwinn, Christoph Kronenberg, and Jens Greve (Wiesbaden: VS Verlag, 2011), 181–209, see esp. 205.
25 Luhmann, *Religion*, 77.
26 Luhmann, 122–44.
27 Peter Beyer*, Religions in Global Society* (London: Routledge, 2006), 85.
28 Niklas Luhmann, *Die Wissenschaft der Gesellschaft* (Frankfurt am Main: Suhrkamp, 1992), 170.

this evolutionary process with respect to religion, in the differentiation between revealed knowledge and scientific knowledge, i.e. between faith and truth. With its code, true/untrue scientific communication creates permanent uncertainty, only compensated for by the constant development of new methods.[29] Scientific theories and methods represent different programmes for coping with the contingency that the system of science itself produces. Through the differentiation of disciplines and programmes, scientific communication secures its operational closure and ongoing reproduction, against the background of the contingent nature of modern knowledge.[30] As subsystems of science, academic disciplines follow a structure of horizontal differentiation, and are oriented toward internal scientific problems.[31] Consequently, scientific observations are second-order observations, and science may be said to be communicative construction, rather than discovery.[32] In the nineteenth century, for example, we can observe intense boundary negotiations between religion and science. In Europe, new philological methods and the critical reading of the Bible impacted strongly on these negotiations, contributing to both the separation between belief and truth, and to the 'scientification of religion.' That is to say, they supported the formulation of religious studies as a discipline of the developing humanities and social sciences.[33]

Luhmann's theoretical perspective is highly suited to the study of secularities on the macro level. Modern Systems Theory provides a generic

---

29 Luhmann, 325.
30 Luhmann, 428.
31 Luhmann, 451.
32 Luhmann, 714.
33 Kocku von Stuckrad, *The Scientification of Religion: A Historical Study of Discursive Change (1800-2000)* (Berlin: De Gruyter, 2014). I elaborate on this process of the "scientification" of religion in an article that analyses the life and work of the British theologian and orientalist William Robertson Smith (1846–1894): Dietrich Jung, "Sociology, Protestant Theology, and the Concept of Modern Religion: William Robertson Smith and the 'Scientification' of Religion," *Journal of Religion in Europe* 8 (2015). Equally, in my book *Orientalists, Islamists and the Global Public Sphere* (Sheffield: Equinox, 2011), I analyse the life and work of a number of sociologists and orientalists involved in this process, who reacted to these boundary negotiations in very different ways. For instance, while Robertson Smith applied philological methods to prove revealed truth in the New Testament, the confrontation with the same scientific tools led Ernest Renan to give up his theological studies and become agnostic.

concept of modernity, in which secularisation appears as the gradual replacement of previously dominant means of differentiation such as segmentation, stratification and centre–periphery relations by functional differentiation.[34] That I take my inspiration from Luhmann's highly abstract theory, however, does not necessarily imply my endorsement of all of his basic theoretical assumptions, including his rigid understanding of modern society's subsystems as self-referential, "autopoietic" social systems, and his relegation of social actors to the environment of the social realm.[35] As already mentioned, I consider these propositions to have a heuristic rather than an ontological value. Ghazali's process of boundary demarcation between religion and science shows that the historical evolution of functional differentiation involved individual as well as collective social actors. While borrowing from Luhmann in defining modernity on the macro level, I nonetheless consider the social actors of the micro level to be indispensable parts of social reality. Religion and science have only achieved their historical significance by being collectively recognised interpretative structures of reality. Social actors apply functionally differentiated means of communication in terms of "situation-specific fictions,"[36] i.e. social subsystems represent for them a demarcation of meaning. How, then, can we understand the relationship between these different levels of social reality? I would argue that the meta-theoretical paradigm of emergence provides a good answer to this question.

3 Emergence: Modernity Without an Origin in Time and Space

Theories of emergence have their origins in nineteenth-century Britain, and moved to the centre of scientific discussions following the First World War. Proponents of the theories argued against both dualistic and reductionist theories of science – that is to say, they rejected the vitalistic dualism between matter and mind, as well as the reduction of the properties of the whole to those of its parts. Consequently, these two core assumptions characterise the paradigm of emergence: Firstly, the properties of different

---

34 Niklas Luhmann, "Geschichte als Prozess und die Theorie sozio-kultureller Evolution," in *Soziologische Aufklärung* (Opladen: Westdeutscher Verlag, 1981), 3:187.

35 Niklas Luhmann, *Soziale Systeme*, 288.

36 Schimanck, *Differenzierung und Integration*, 48.

levels of reality do not result from binaries of substances such as mind and matter. Secondly, we should not reduce the properties of a higher level to those of a lower level of reality, i.e. mental structures to mere material processes.[37] We face questions of emergence in diverse complex systems such as ant colonies, neural networks, the immune system, or global financial markets.[38] In all these cases, the concept of emergence describes complex and adaptive systems, and reflects upon the relationship between different levels of reality. Theories of emergence describe structures of reality with reference to different levels with different properties which cannot be reduced to one another.[39] Regarding social emergence, we can roughly distinguish three ontological and epistemological levels: the macro, meso and micro levels of society. While functional systems describe the social macro level, organisations, institutions and social movements appear on the meso level. My example of Abu Hamid al-Ghazali's life and work, then, is situated on the micro level of a historical individual. These three levels together represent social reality as a whole, and are connected through a kind of "constitutive interdependence."[40] It is this constitutive interdependence that becomes visible in boundary negotiations such as those between religion and science. It is collective and individual actors who draw the historically contingent but temporarily valid boundaries of different social realms.

By adding the metatheoretical concept of emergence to my own theoretical framework, I draw undogmatically from what has been termed 'strong emergence.' According to this concept, some properties of a system are irreducible to – and unpredictable in their origin from – the behaviour of its constituent parts. Consequently, these properties are novel and genuine results of socio-cultural evolution.[41] Thinking of modernity in

---

37 Achim Stephan, "Eine kurze Einführung in die Vielfalt und Geschichte emergentistischen Denkens," in *Blinde Emergenz? Interdisziplinäre Beiträge zu Fragen kultureller Evolution* (Heidelberg: Synchron, Wissenschaftsverlag der Autoren, 2000), 34.

38 John H. Holland, *Emergence: From Chaos to Order* (Oxford: Oxford University Press, 1998), 2.

39 Charbel N. El-Hani, and Sami Philström, "Emergence Theories and Pragmatic Realism," *Essays in Philosophy* 3, no. 1, Article 3 (2002): 5.

40 Dan Zahavi, "On Self, Empathy, and Shame," *International Journal of Philosophical Studies* 23, no. 5 (2015): 638–44.

41 Achim Stephan, "Varieties of Emergentism," *Evolution and Cognition* 5, no. 1 (1999): 51–53.

terms of social emergence allows us to come to a multilevel description of the social world. From this perspective, the communicational codes of functional differentiation are the historically contingent and unexpected result of socio-cultural evolution. In this respect, socio-cultural evolution is understood in terms of contingent variation, selection, and emerging forms of self-organisation at lower levels.[42] Even if we attributed ontological priority to the individual level, as is the case in methodological individualism, society and its subsystems have specific properties distinct from those of human individuals. Both social systems and individual actors are autonomous but interdependent levels of social reality.[43] Disputes in the social sciences between theories of individualism and structuralism, therefore, should be seen as methodological in nature, rather than a matter of the ontological status of social reality.[44]

Adopting this perspective of social emergence, I explore Luhmann's description of functionally differentiated modern global society as a social macro level with novel properties, albeit one originally generated by processes and activities at lower levels. This constitutive interdependence of the macro, meso and micro levels of social reality does not contradict the claim that social structures at a higher level possess relative autonomy once they have been established. In defining social systems as autopoietic, Niklas Luhmann may exaggerate the self-referentiality of the novel properties of modern functional systems. Yet, when interpreting the operational closure of social systems in terms of conceptual ideal types, I do not see any problem in combining concepts of Modern Systems Theory with theories that prioritise other levels of social reality or emphasise forms of discursive and social interaction. Whether we start from structures, organisations, or the individual is a question of our choice of research strategy, rather than one stemming from rigid application of methodological principles.

Putting Luhmann into a framework of emergence provides me with a theoretical perspective according to which the rise of functional differentiation has no specific origin in time and space. Similar to the

---

42 Stuart A. Kauffman, *The Origins of Order: Self-Organization and Selection in Evolution* (Oxford: Oxford University Press, 1993).
43 Schimanck, *Differenzierung und Integration*, 73.
44 Cf. Keith R. Sawyer, "Nonreductive Individualism: Part I – Supervenience and Wild Disjunction," *Philosophy of the Social Sciences* 32, no. 4 (2002): 537.

development of new ways of thinking described in the "axial age" thesis of the German philosopher Carl Jaspers, we can understand the rise of features of modernity at different places and points in time within a long historical period. According to Jaspers' philosophical speculation, the axial age (700–200 B.C.) is characterised by a fundamental transformation brought about by the communicative construction of a transcendental realm in permanent tension with the world. The core of Jaspers' thesis is that, across different cultures, we observe the independent but simultaneous emergence of two realms of reality, dividing the world into transcendental and mundane spaces.[45] From Jaspers' philosophical perspective, these two social spheres appeared in different cultural settings that were not in contact with each other. The world-historical patterns of transcendence and immanence are the evolutionary result of contingent but, in retrospect, directed human developments. In the following section, therefore, I will look at Ghazali's autobiographical reflections as an example of the pre-modern independent emergence of realms of communication, which we today identify with the social systems of science and religion. Through the metatheoretical paradigm of emergence, I will facilitate an encounter between Niklas Luhmann and Abu Hamid al-Ghazali.

4 Al-Ghazali: *Deliverance from Error*

Abu Hamid al-Ghazali wrote his *Deliverance from Error* shortly before his death in 1111, more than 10 years after he left his teaching position in Baghdad. The deep crisis in his personal life, and the resulting transformation in his thinking, are the core themes of this autobiographical work. In the book, Ghazali identifies four groups that occupy themselves with the search for truth: theologians, representatives of the Batiniyya sect,[46] philosophers, and mystics. In the end, Ghazali concludes that

---

45 Carl Jaspers, *Vom Ursprung und Ziel der Geschichte* (Frankfurt am Main: Suhrkamp, 1956). In sociology, Jasper's speculative philosophical concept of the axial age has been incorporated into so-called civilisational theories; see Shmuel N. Eisenstadt, "The Axial Age: The Emergence of Transcendental Visions and the Rise of Clerics," *European Journal of Sociology* 23 no. 2 (1982); and Johann P. Arnason, *Civilizations in Dispute: Historical Questions and Theoretical Traditions* (Leiden: Brill, 2003).

46 The Batiniyya emphasised the internal interpretation of the holy scriptures of Islam instead of their literal understanding. Their teachings contained

only the intuition of the mystic arrives at real truth; neither empirical knowledge through the senses, nor the rational reasoning of philosophy, will lead to the same end. In this way, Ghazali describes his own path to real knowledge as the transformation from a rationalist thinking in philosophical categories, to a Sufi following a mystical path.[47] Following the philosophers in constructing truth from first principles, according to Ghazali, leads to unauthorised innovations (*bidaʿ*) without roots in the Islamic traditions.[48]

The central question of *Deliverance from Error* is that of what constitutes true knowledge. In applying the categories of Modern Systems Theory, I read it as a treatise on the relationship between revealed and scientific knowledge, and between the two emerging communicative systems of religion and science. Ghazali begins by describing how he lost confidence in empirical experiments and observations, moving on instead to the search for knowledge from first principles, which he considered to be philosophical ideas in a Platonic sense.[49] In this first shift, Ghazali rejected empiricist methods and took up the path of Neoplatonic thought, with which he had made himself familiar through his reading of Muslim philosophers such as Al-Farabi (around 872–950) and Ibn Sina (lat. Avicenna, 980–1037).[50] According to my anachronistic reading, Ghazali is reflecting upon methods of empirical knowledge, as early as the eleventh century. In the course of the sixteenth and seventeenth centuries, such reflections would become the new modern scientific standard in Europe.[51]

Neoplatonic and dualistic Iranian elements, and are closely linked to the Ismailiyya, an offspring of Shiism, see Marshall G. S. Hodgson, s.v. "Batiniyya," in *Encyclopaedia of Islam online*, ed. Kate Fleet et al. (Leiden: Brill, 2012); and the classic: Ignaz Goldziher, *Streitschrift des Ghazali gegen die Batinija-Sekte* (Leiden: Brill, 1916).

47 Montgomery W. Watt, s.v. "Al-Ghazali," In *Encyclopaedia of Islam online*.

48 Hourani, *Die Geschichte*, 218.

49 Abu Hamid Al-Ghazali, *Deliverance from Error: Five Key Texts Including his Spiritual Autobiography*, *al-Munqidh min al-Dalal*, trans. Richard J. McCarthy (Louisville, KY: Fons Vitae, 1980), 58.

50 Alphousseyni Cissé, *Quelques aspects de la pensée d'Al-Gazali* (Paris: L'Harmattan, 2013); D. C. Moulder "The First Crisis in the Life of Al-Ghazali." *Islamic Studies* 11, no. 2 (1972); Montgomery W. Watt, "Al-Ghazali".

51 Cf. Bettina Heintz, and Tobias Werron, "Wie ist Globalisierung möglich? Zur Entstehung globaler Vergleichshorizonte am Beispiel von Wissenschaft und Sport," *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 56 (2011): 1–31.

Following his discussion of empiricism versus rationalism, Ghazali moves on to define the four aforementioned groups of seekers of knowledge. His comparison of these four ideal types is guided by the assumption that one of them should reveal the correct path to true knowledge, in the sense of transhistorically valid perennial knowledge.

Ghazali examines the four types one by one, beginning with the theologians. Theology (*ilm al-kalām*), according to Ghazali, cannot be the real source of truth, as most theologians only try to defend their orthodox beliefs against heretics.[52] Consequently, they try to maintain the status quo, rather than engaging in the search for real knowledge. Thus, they are rapidly excluded as a possible source of truth. More complex is his relationship with the philosophers. While he insists on the necessity of a proper understanding of philosophy, he eventually rejects the rationalist path to knowledge. In his analysis of the philosophers, Ghazali distinguishes between materialists, naturalists, and theists, and examines the six philosophical sciences: mathematics, logic, natural sciences, theology, politics, and ethics.[53] Applying Luhmann's Modern Systems Theory, we can say that Ghazali applied subdivisions associated with different disciplines of the modern system of science. In referring to this differentiation of the philosophical sciences, Ghazali rejects the assumption that a sincere Muslim believer must defend Islam against scientific findings. In his opinion, such a position would certainly be proof of a strong loyalty to Islam, but it is at the same time a proof based on ignorance.[54] In sharp contrast, he mentions the benefits of using logic as a method of argumentation in Islamic theology and jurisprudence (*fiqh*).[55] In Ghazali's eyes, there is no religious reason to reject the findings of medicine and the natural sciences. More significantly, he does not consider them to play a role in the justification of religious belief either. Ghazali ultimately finds the secure path to religious truth to lie solely in the mystical practices and experiences of Sufism, which for him have contributed to the "purification of his soul." Through spiritual experience on the path of Sufism, the believer approaches the real nature of divine revelation conveyed by Muhammad, the messenger of God.

---

52 Ghazali, *Deliverance*, 59.
53 Ghazali, 63.
54 Ghazali, 64.
55 Ghazali, 65.

Applying Luhmann's conceptual terms as my language of observation, I identify different forms of communication in Ghazali's writings. In his effort to justify seeking religious truth through the spiritual experience of God, Ghazali leads his readers through various subdivisions of scientific and religious communications. Viewing his writing through this lens, we see that he distinguishes between religion and science close to the way in which we separate them in modern times. Ghazali's discussion covers both metaphysical and empirical forms of knowledge. In addition, his thoughts show a certain awareness of emerging subdivisions in the system of science, and of the role theology plays in otherwise empirical scientific disciplines. Yet, in his critique of the theologians, he also draws the boundaries by which theological reasoning, such as *kalām,* could be authorised.[56] In *Deliverance from Error*, we detect Ghazali's struggle with various forms of truth. In the conceptual language of Niklas Luhmann, these forms of truth represent preliminary stages in the rise of the modern communicative media – belief and scientific truth. In this reading, Ghazali engaged in the demarcation of the discursive boundaries of two social subsystems. Based on these observations, I tentatively pose the interpretative claim that, as early as the eleventh century, Ghazali was dealing with the intrinsic communicative logic of emerging modern social systems. From his religious point of view, however, he did not accept the equal and independent coexistence of these discursive truths. His discussion of the different forms of communication served him in the confirmation of the primacy of religion. Ghazali understood the order of things to be solely in the hands of God,[57] rejecting what could today be described as the 'polycontexturality of modernity.' He held that it was the task of religious scholars to defend the undisputable primacy of religion, lest ordinary Muslims come to the point of disregarding the hierarchy of knowledge. Consequently, despite their useful insights, he sees a risk of science and philosophy undermining religion. In this way, Ghazali's motivation in writing *Deliverance from Error* may indeed have been to provide a "spiritual guide for ordinary Muslims."[58]

---

56 Cf. Hourani, *Die Geschichte*, 217.
57 MacDonald, "The Life of al-Ghazzali," 115.
58 Avital Wohlman, *Al-Ghazali, Averroes and the Interpretation of the Qur´an: Common Sense and Philosophy in Islam* (London: Routledge, 2009), 4.

5 The Golden Age of Islamic Science: Ghazali and the Scholarly Environment of Baghdad

We must read the work of Abu Hamid al-Ghazali in the historical and discursive context of the so-called Golden Age of Islamic science, which conventionally has been related to the Abbasid Caliphate (750–1258). More precisely, Ghazali's thought was intimately connected to the urban intellectual culture of the Abbasid capital Baghdad (from 762). As the centre of Islamic science, Baghdad had a large infrastructure of academies and libraries, as well as research and teaching institutions, and by the eighth century its population had already exceeded two million inhabitants.[59] Over centuries, discussion of controversial theological, philosophical, and scientific questions was fostered in the intellectual milieu of Baghdad.[60] During this period, books from Greece, Persia and India were translated into Arabic, which, as a result, replaced Greek as the universal language of scientific inquiry. In addition, since the early ninth century, major Islamic cities had had organised forms of higher education, featuring varieties of pre-modern institutions, such as the Nizamiyya.[61] Muslim and non-Muslim scholars produced astronomical, historiographical, geographical, and theological literature in Arabic, alongside handbooks on administrative and political affairs.[62] Ghazali's *Deliverance from Error* should therefore be seen not only as an account of his personal crisis, but also as an engagement with the intellectual controversies of the Golden Age. The individual perceptions of Ghazali only make sense in the context of Baghdad's discursive and institutional structures at the meso level.

Advancements in early modern science, medicine, and technology characterised the scholarly environment in which Ghazali was raised. George Saliba emphasises the revolutionary role of "Islamic sciences" and the field of astronomy in particular.[63] The classical narrative of Islamic

---

59 Maurice Lombard, *Blütezeit des Islam: Eine Wirtschafts- und Kulturgeschichte des 8. – 11. Jahrhunderts* (Frankfurt am Main: Fischer, 1992), 129.

60 Sebastian Günther, "Bildung und Ethik im Islam," in *Islam: Einheit und Vielfalt einer Weltreligion,* ed. Rainer Brunner (Stuttgart: Kohlhammer, 2016), 214.

61 Jonathan Lyons. *The House of Wisdom: How the Arabs Transformed Western Civilization* (New York, NY: Bloomsbury Press, 2009), 64.

62 Hourani, *Die Geschichte*, 252–55.

63 George Saliba, *Islamic Science and the Making of the European Renaissance* (Cambridge: Cambridge University Press, 2007).

sciences – moving from a focus on the translation of outside works, to its own Golden Age, to its eventual decline and stagnation – represents a rather Eurocentric understanding of the rise of the modern system of science. It is an understanding that has lost much of its credibility.[64] In Saliba's analysis, the production of scientific knowledge did not face an immediate decline with the fall of Abbasid rule, nor did Muslim scholarship represent a mere intermediate period in the translation and transmission of Greek knowledge to Europe. With their innovative scientific achievements, Islamic scholars contributed to the development of the global system of science more generally. In fact, the so-called modern scientific revolution in Europe cannot be separated from its complex entanglement with Asian, Greek, and Islamic cultures of knowledge.[65] A telling case in point concerns the Arab physician Ibn al-Nafis (1213–1288), who lived and worked in Cairo and Damascus. In his *Commentary on Anatomy in Avicenna's Canon*, Ibn al-Nafis fundamentally revised the Galen scheme with respect to the pulmonary circulation of the blood. In his *Commentary,* Ibn al-Nafis described how "blood has to pass through the pulmonary circulation and could not move directly from the right to the left ventricle" of the heart, around 300 years before European scholars came to the same conclusion.[66] While in the period after Ghazali's death the relatively open reception and discussion of philosophical and scientific knowledge came under pressure, scientific thinking never stagnated in the Islamic regions of the world. This also applies to the sciences in the Ottoman Empire. The classic narrative about the Ottoman realm lacking a scientific history has increasingly been revised in recent decades.[67]

To a certain extent, the intellectual environment that Hamid Abu al-Ghazali enjoyed in Abbasid Baghdad foreshadowed the polycontextural

---

64 Cf. Ahmed Ragab, "Making History: Identity, Progress and the Modern-Science Archive," *Journal of Early Modern History* 21, no. 5 (2017): 433–44.

65 George Saliba, "Greek Astronomy and the Medieval Arabic Tradition," *American Scientist* 90, no. 4 (2002): 360–67.

66 John B. West, "Ibn al-Nafis, the Pulmonary Circulation, and the Islamic Golden Age," *Journal of Applied Physiology* 105 (2008): 1877–80.

67 Harun b. Kücük, *Early Enlightenment in Istanbul* (PhD Dissertation. San Diego: University of California, 2012); Harun B. Kücük, "Early Modern Ottoman Science: A New Materialist Framework," *Journal of Early Modern History* 21, no. 5 (2017): 407–19.

nature with which contemporary sociology describes the complexity and social contingency of modernity. This can be seen in the discursive complexity of 'Islamic sciences' during the Golden Age, with a plurality of scholars engaged in discussions about a broad range of theological, philosophical, political, educational, and scientific questions. Centre stage, however, was precisely the competition between revealed and scientific knowledge that characterised Ghazali's treatises. Zooming in to the micro level, then, we can discern the tension between religious belief and philosophical knowledge in Ghazali's argumentation, a conflict that parallels discussions in European Scholasticism, with each claiming real truth for their worlds of thought.[68] In *Deliverance from Error*, I observe Ghazali engaging with boundary demarcations between religion and science. In his search for truth, Ghazali describes the world from a religious point of view, opposing the increasing separation of the logic of scientific enquiry from religious belief, which was evident in the argumentation of other scholars.[69] Putting it in Luhmann's terms, Ghazali observed the world as the environment of religion, set against burgeoning non-religious subsystems.[70] In this sense, one could interpret his autobiography as an empirical confirmation of Luhmann's heuristic point of departure: the assumption that religion is, historically speaking, the first social realm that differentiated itself as a functional system.[71]

The analysis of Ghazali's argumentation reminds me of Max Weber's metaphor of the modern "polytheism" of value spheres in his *Zwischenbetrachtungen.* In this seminal text, Weber juxtaposed religious ethics with the autonomous ethics of the artistic, economic, erotic, political, and scientific realms.[72] On the macro level, these different value spheres appear as self-referential social systems, each following its own specific operational codes. On the micro level, however, individual actors

---

68 Schneider, "Religion und funktionale Differenzierung," 193.
69 See: Jim Al-Khalil, *The House of Wisdom* (New York, NY: Penguin Press, 2011), 184.
70 Cf. Luhmann, *Religion*, 282.
71 Schneider, "Religion und funktionale Differenzierung," 205. I am not really convinced of this point, and mention it here only as a heuristic perspective in the context of my own observations.
72 Max Weber, "Zwischenbetrachtungen: Theorien der Stufen und Richtungen religiöser Weltablehnung," in *Gesammelte Aufsätze zur Religionssoziologie I* (Tübingen: Mohr, 1988 [1915]): 582–613.

have to struggle with all these impersonal, formally rationalised forces of modernity, that all seek to "gain power over their lives."[73] In conducting their everyday lives, individuals must relate to these spheres of "a sociality without actors."[74] In Ghazali's work, we already can see this struggle of the individual against such a formal rationalisation of different spheres of life. It was the associated loss of any valid justification for general moral standards that this process entailed, and therewith the fear of a rising social anomie that, centuries later, were the defining features of modern culture for the conservative thinker Alasdair MacIntyre.[75]

6 Conclusions: Lessons to Learn from Luhmann and Ghazali

In this essay, I constructed an encounter between the thoughts of the Muslim theologian and philosopher Hamid Abu al-Ghazali and the Modern Systems Theory of the sociologist Niklas Luhmann. Almost a millennium divides the lives of these two scholars, but it seems that we can bring them into a kind of dialogue with each other. As mentioned in the introduction, in constructing this diachronic encounter across cultures, my aim was not to make a contribution to the body of scholarship on Ghazali's life and work, but instead to suggest theory-driven answers to some of the questions that are at the heart of the CASHSS Multiple Secularities – Beyond the West, Beyond Modernities' research programme. Ghazali's autobiographical notes on the crisis in his personal life serve as an example of pre-modern and non-Western boundary demarcations between religion and science, illustrating forms of both, secularity before modernity and secularity beyond the West. This paper conducts an anachronistic analysis, using Luhmann's theory, of these boundary demarcations, in which Ghazali's life and work are used as an example of social boundary negotiations becoming visible on the micro level. In putting the case of Ghazali into the context of the so-called Golden Age of Islamic sciences, I have interpreted his writings as an intrinsic part of the global emergence of the functional systems of science and religion. This emergence is epitomised in his search for 'real truth,' in the context of the

---

73 Max Weber, "Science as a Vocation," in *From Max Weber: Essays in Sociology,* edited by H. H. Gerth, and C. Wight Mills (London: Routledge, 1992, [1917]), 129–56.
74 Schimanck, *Differenzierung und Identität*, 48.
75 Alasdair MacIntyre, *After Virtue: A Study in Moral Theory* (London: Duckworth, 1981), 58.

scientific enquiries of his times. In Abbasid Baghdad, a complex network of scholars engaged in this search for truth. Their struggle to determine the real sources of truth reflected a dynamic process of differentiation between revealed and scientific knowledge, woven into the political and social conflicts of their time.

In political terms, the life of Ghazali was accompanied by the decline of the classical Islamic empires and their claim to representing a political and religious unity through the institution of the Caliphate. Being close to both the Caliph and the Sultan, Ghazali observed the increasing separation between religious and political authority in the Abbasid Empire. While the position of the Caliph was gradually reduced to the representation of the community of believers (*umma*), the Sultan epitomised worldly power with his control of the means of physical force.[76] In recognising this, Ghazali probably followed his political mentor Nizam al-Mulk, who wrote a book on governance in which he defined politics as the worldly maintenance of state power and social order.[77] In the political philosophy of his time, this theory of 'Sunni Realism' reflected upon the conflict-ridden process of pre-modern state formation. According to Hamid Enayat, this form of rule was characterised by unconditional obedience to the Sultan, a kind of political quietism that gradually found its religious justification in the doctrines of Sunni orthodoxy. Political power was in the hands of those who were able to guarantee internal and external security by military means.[78] Hamid Abu al-Ghazali was one of the thinkers articulating the emergence of a relatively autonomous political sphere. He argued that the Caliph had de facto lost his political authority. In fact, Ghazali saw him as being entirely in the hands of the Seljuq Sultan, who only formally paid homage to the Abbasid Caliph.[79]

In retrospect, I consider these boundary negotiations in the late Abbasid Empire an example of non-European "preadaptive advances" in modernity,

---

76 Ulrich Haarmann, "Der arabische Osten im späten Mittelalter 1250–1517," in *Die Geschichte der arabischen Welt*, ed. Ulrich Haarmann (München: C. H. Beck, 1987), 219.

77 Tilman Nagel, "Das Kalifat der Abbasiden," in *Die Geschichte der arabischen Welt*, ed. Ulrich Haarmann (München: C. H. Beck, 1987), 158.

78 Hamid Enayat, *Modern Islamic Political Thought* (London: Macmillan Press, 1982), 27–29.

79 Enayat, *Modern Islamic Political Thought*, 11.

which Luhmann considered necessary for the emergence of new forms of functionally defined modern realms of communication.[80] The scholars in Baghdad discussed "culturally and symbolically as well as institutionally anchored forms and arrangements of differentiation between religion and other social spheres."[81] While the rise of a relatively autonomous sphere of politics formed part of these discussions, the search for knowledge and truth – that is to say the boundary demarcation between science and religion – appears to be the prime issue at hand. For several centuries, Baghdad was centre stage for such negotiations between Islam and science. Against this background, my example of Hamid Abu al-Ghazali inspires a number of possible strategies for investigating secularities both beyond and within the West. I would like to conclude by highlighting some of these, with the caveat that they currently form mere suggestions, rather than being elaborated evidence.

First of all, my essay suggests dispensing with the exclusivity of focusing on the separation between religion and politics. For decades, the social sciences have almost been obsessed with this particular differentiation when discussing secularisation. For too long, the separation between religion and politics has been considered the litmus test for entering the modern world, and, as a result, studies on religion and politics have drawn scholarly resources at the expense of the exploration of the relationship between religion and any other non-religious realms (of which there are many!). Here, the concept of Multiple Secularities, with its more general conceptualisation of religion and the secular, together with an approach that combines Modern Systems Theory with the paradigm of emergence, may help in the effort to move away from this rather myopic 'political' understanding of modernisation cum secularisation. This particularly applies to the desire to search for pre-modern forms of secularities,[82] or, in Luhmann's conceptual language, for preadaptive modern advances. Moreover, applying elements of Modern Systems Theory to the meta-theoretical context of emergence can contribute to the avoidance of certain

---

80 Luhmann, *Wissenschaft*, 709.
81 Monika Wohlrab-Sahr, and Marian Burchardt, "Multiple Secularities: Toward a Cultural Sociology of Secular Modernities," *Comparative Sociology* 11, no. 6 (2012): 881.
82 Kleine and Wohlrab-Sahr, "Preliminary findings," 3.

"anachronisms with functional differentiation."[83] As emergent patterns, preadaptive advances of modern forms of communication are not in and of themselves modernity per se.

Understanding the social realm through the prisms of social emergence can also offer solutions to some of the questions raised by Florian Zemmin. In his working paper, Zemmin points to different critiques of the concepts of secularity and its plural, secularities. In the latter case, he deals with accusations of "cultural relativism," and in the former, he addresses those that suppose a non-western pre-secular "wholesomeness" that was undone by the influence of "western" secularism.[84] Translated into questions about the relationship between unity and diversity, theories of emergence help to provide answers with respect to two different levels of social reality or levels of analysis. The level of modern structures may provide us with a certain unity, while the engagement with and enactment of these structures by social actors leads to historically observable 'cultural' diversity. Both levels are intrinsic parts of society, though are also theoretically disentangled, and can be the subject of simultaneous observations through different conceptual languages and analytic frames of references. In addition, the search for emerging patterns of modernity as preadaptive advances may indicate the first steps to answering Zemmin's questions of the why and the how of extending secularity beyond the West.[85]

Finally, this essay and its theoretical perspective raise a rather 'heretical' question: Does the binary conceptual distinction between religion and non-religion even makes sense at all? The centre's directors Christoph Kleine and Monika Wohlrab-Sahr point out that this distinction is "the constitutive core element of secularity" as a concept.[86] At the same time, they pose the question as to whether the secular can be determined in a positive way.[87] To a certain extent, the binary nature of the concepts is flawed, as they are not of the same analytic quality. In comparison to religion, secularity is – at

---

83 Kleine and Wohlrab-Sahr, 16.
84 Florian Zemmin, "How (Not) to Take 'Secularity' Beyond the Modern West: Reflections from Islamic Sociology," *Working Paper Series of the HCAS "Multiple Secularities – Beyond the West, Beyond Modernities"* 9, Leipzig University, 2019, 4.
85 Zemmin, 5.
86 Kleine and Wohlrab-Sahr, "Preliminary Findings," 21.
87 Kleine and Wohlrab-Sahr, 24.

least from the perspective of Modern Systems Theory – nothing more than a residual category, lumping together everything non-religious. I have already criticised the use of this residual category to turn the distinction between religion and non-religion into one between religion and politics or religion and the modern state. By defining the secular as the negation of religion, however, we ascribe a primacy to the perspective of religion, and to religious communication as a conceptual domain. Yet, in making conceptual sense of the secular in a positive way, we end up with a multiplicity of possible secular domains, such as the arts, economics, the media, law, politics, and science. These domains all follow their own respective communicational logics, just as religion does. This problem was already visible in Max Weber's discussion of modern polytheism, in which he also juxtaposed different social spheres with religion. Why should we privilege the communicative logic of religion as a functional system, over those of the many other communicative systems of modern society? Are not distinctions between the logics of economics and politics, or between science and the arts, equally significant for our understanding of the modern world? Why should we claim 'wholeness' for religion and 'diversity' for the secular? Does such a stance still make conceptual sense, or should we instead entirely drop the concept of the secular as a residual category? Why should we continue to observe the world from a religious position?

7 Bibliography

Al-Ghazali, Abu Hamid. *Deliverance from Error: Five Key Texts Including his Spiritual Autobiography, al-Munqidh min al-Dalal*. Translated and annotated by Richard J. McCarthy. Louisville, KY: Fons Vitae, 1980.

Al-Khalil, Jim. *The House of Wisdom*. New York, NY: Penguin Press, 2011.

Arnason, Johann P. *Civilizations in Dispute: Historical Questions and Theoretical Traditions*. Leiden: Brill, 2003.

Beyer, Peter. *Religions in Global Society*. London: Routledge, 2006.

Cissé, Alphousseyni. *Quelques aspects de la pensée d'Al-Gazali*. Paris: L'Harmattan, 2013.

Dressler, Markus, Armando Salvatore, and Monika Wohlrab-Sahr. "Islamicate Secularities: New Perspectives on a Contested Concept." *Historische Sozialforschung* 44, no. 3 (2019): 7–34.

Eisenstadt, Shmuel N. "The Axial Age: The Emergence of Transcendental Visions and the Rise of Clerics." *European Journal of Sociology* 23, no. 2 (1982): 294–314.

Elder-Vass, Dave. "Luhmann and Emergentism: Competing Paradigms for Social Systems Theory?" *Philosophy of the Social Sciences* 37, no. 4 (2007): 408–32.

El-Hani, Charbel H., and Sami Philström. "Emergence Theories and Pragmatic Realism." *Essays in Philosophy* 3, no. 1, Article 3 (2002).

Enayat, Hamid. *Modern Islamic Political Thought*. London: Macmillan Press, 1982.

Garden, Kenneth. *The First Islamic Reviver: Abu Hamid al-Ghazali and his Revival of the Religious Sciences*. Oxford: Oxford University Press, 2013.

Goldziher, Ignaz. *Streitschrift des Gazali gegen die Batinijja-Sekte*. Leiden: Brill, 1916.

Griffel, Frank. *Al-Ghazali's Philosophical Theology*. Oxford: Oxford University Press, 2009.

Günther, Sebastian. "Bildung und Ethik im Islam." In *Islam: Einheit und Vielfalt einer Weltreligion*, edited by Rainer Brunner, 210–36. Stuttgart: Kohlhammer, 2016.

Haarmann, Ulrich. "Der arabische Osten im späten Mittelalter 1250–1517." In *Geschichte der arabischen Welt*, edited by Ulrich Haarmann, 217–63. München: C. H. Beck, 1987.

Heintz, Bettina "Emergenz und Reduktion: Neue Perspektiven auf das Mikro-Makro-Problem." *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 56, no. 1 (2004): 1–31.

Heintz, Bettina, and Tobias Werron. "Wie ist Globalisierung möglich? Zur Entstehung globaler Vergleichshorizonte am Beispiel von Wissenschaft und Sport." *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 56 (2011): 1–31.

Hodgson, Marshall G. S. "Batiniyya." In *Encyclopaedia of Islam online*, edited by Kate Fleet, Gudrun Krämer, Denis Matringe, John Nawas, and Everett K. Rowson. Leiden: Brill, 2012.

Holland, John H. *Emergence: From Chaos to Order*. Oxford: Oxford University Press, 1998.

Hourani, Albert. *Die Geschichte der arabischen Völker*. Frankfurt am Main: Fischer, 1992.

James, William. *The Varieties of Religious Experience: A Study in Human Nature*. London: Routledge, 2002 [1902].

Jaspers, Karl. *Vom Ursprung und Ziel der Geschichte*. Frankfurt am Main: Suhrkamp, 1956.

Jung, Dietrich. *Orientalists, Islamists and the Global Public Sphere: A Genealogy of the Modern Essentialist Image of Islam*. Sheffield: Equinox, 2011.

Jung, Dietrich. "Sociology, Protestant Theology, and the Concept of Modern Religion: William Robertson Smith and the 'Scientification' of Religion." *Journal of Religion in Europe* 8 (2015): 335–64.

Jung, Dietrich. *Muslim History and Social Theory: A Global Sociology of Modernity*. New York, NY: Palgrave, 2017.

Jung, Dietrich. *Der Islam in der globalen Moderne: Soziologische Theorie und die Vielfalt islamischer Modernitäten*. Wiesbaden: Springer VS, 2021.

Kauffman, Stuart A. *The Origins of Order: Self-Organization and Selection in Evolution*. Oxford: Oxford University Press, 1993.

Kleine, Christoph, and Monika Wohlrab-Sahr. "Preliminary Findings and Outlook of the CASHSS 'Multiple Secularities – Beyond the West, Beyond Modernities'. *Working Paper Series of the CASHSS "Multiple Secularities – Beyond the West, Beyond Modernities"* 22. Leipzig University, 2020.

Kücük, Harun B. *Early Enlightenment in Istanbul*. PhD Dissertation. San Diego: University of California, 2012.

Kücük, Harun B. "Early Modern Ottoman Science: A New Materialist Framework." *Journal of Early Modern History* 21, no. 5 (2017): 407–19.

Lohse, Simon. "Zur Emergenz des Sozialen bei Niklas Luhmann." *Zeitschrift für Soziologie* 40, no. 3 (2011): 190–207.

Lombard, Maurice. *Blütezeit des Islam: Eine Wirtschafts- und Kulturgeschichte des 8. – 11.*

Jahrhunderts. Frankfurt am Main: Fischer, 1992.

Luhmann, Niklas. "Geschichte als Prozess und die Theorie sozio-kultureller Evolution." In "Soziales System, Gesellschaft, Organisation," 178–97. Vol. 3 of *Soziologische Aufklärung*. Opladen: Westdeutscher Verlag, 1981.

Luhmann, Niklas. *Soziale Systeme: Grundriss einer allgemeinen Theorie*. Frankfurt am Main: Suhrkamp, 1987.

Luhmann, Niklas. *Die Wissenschaft der Gesellschaft*. Frankfurt am Main: Suhrkamp, 1992.

Luhmann, Niklas. *Die Gesellschaft der Gesellschaft*. 2 vols. Frankfurt am Main: Suhrkamp, 1998.

Luhmann, Niklas. *Die Religion der Gesellschaft*. Frankfurt am Main: Suhrkamp, 2002.

Lyons, Jonathan. *The House of Wisdom: How the Arabs Transformed Western Civiliz*ation. New York, NY: Bloomsbury Press, 2015.

MacDonald, Duncan B. "The Life of al-Ghazzali with Especial Reference to His Religious Experiences and Opinions." *Journal of the American Oriental Society* 20 (1899): 71–132.

MacIntyre, Alasdair. *After Virtue: A Study in Moral Theory*. London: Duckworth, 1981.

McCarthy, Richard J. *Freedom and Fulfillment: An Annotated Translation of Al-Ghazali's Al-Munqidh Min Al-Dalal and Other Relevant Works of Al-Ghazali*. Woodbridge: Twayne Publishers, 1980.

Moosa, Ebrahim. *What is a Madrasa?* Edinburgh: Edinburgh University Press, 2015.

Moulder, D. C. "The First Crisis in the Life of AlGhazali." *Islamic Studies* 11, no. 2 (1972): 113–23.

Nagel, Tilman. "Das Kalifat der Abbasiden." In *Die Geschichte der arabischen Welt*, edited by Ulrich

Haarmann, 101–65. München: C. H. Beck, 1987.

Ormsby, Eric. *Ghazali: The Revival of Islam*. Oxford: One World, 2008.

Poe Yu-Ze Wan. "Emergence à la Systems Theory: Epistemological *Totalausschluss* or Ontological Novelty?" *Philosophy of the Social Sciences* 41, no. 2 (2011): 178–210.

Radtke, Bernd. "Der sunnitische Islam." In *Der Islam in der Gegenwart*, edited by Werner Ende, and Udo Steinbach, 54–69. München: C.H. Beck, 1989.

Ragab, Ahmed. "Making History: Identity, Progress and the Modern-Science Archive." *Journal of Early Modern History* 21, no. 5 (2017): 433–44.

Robinson, Chase F. *Islamic Civilization in Thirty Lives*. London: Thames and Hudson, 2016.

Saliba, George. "Greek Astronomy and the Medieval Arabic Tradition." *American Scientist* 90, no. 4 (2002): 360–67.

Saliba, George. *Islamic Science and the Making of the European Renaissance*. Cambridge: Cambridge University Press, 2007.

Sawyer, Keith R. "Nonreductive Individualism: Part I – Supervenience and Wild Disjunction." *Philosophy of the Social Sciences* 32, no. 4 (2002): 537–59.

Schimank, Uwe. *Differenzierung und Integration der modernen Gesellschaft*. Beiträge zur akteurszentrierten Differenzierungstheorie 1. Wiesbaden: VS Verlag, 2005.

Schneider, Werner L. "Religion und funktionale Differenzierung." In Soziale Differenzierung. Handlungstheoretische Zugänge in der Diskussion, edited by Thomas Schwinn, Christoph Kronenberg, and Jens Greve, 181–209. Wiesbaden: VS Verlag, 2011.

Stephan, Achim. "Varieties of Emergentism." *Evolution and Cognition* 5, no. 1 (1999): 49–59.

Stephan, Achim. "Eine kurze Einführung in die Vielfalt und Geschichte emergentistischen Denkens." In *Blinde Emergenz? Interdisziplinäre Beiträge zu Fragen kultureller Evolution*, edited by Thomas Wägebaur, 33–47. Heidelberg: Synchron, Wissenschaftsverlag der Autoren, 2000.

Treiger, Alexander. *Inspired Knowledge in Islamic Thought: Al-Ghazali's Theory of Mystical Cognition and its Avicennian Foundation*. London: Routledge, 2012.

Von Stuckrad, Kocku. *The Scientification of Religion: A Historical Study of Discursive Change (1800–2000)*. Berlin: De Gruyter, 2014.

Watt, W. Montgomery. "Al-Ghazali." In *Encyclopaedia of Islam online*, edited by Kate Fleet, Gudrun Krämer, Denis Matringe, John Nawas, and Everett K. Rowson. Brill: Leiden, 2012.

Weber, Max. "Zwischenbetrachtungen: Theorien der Stufen und Richtungen religiöser Weltablehnung." In *Gesammelte Aufsätze zur Religionssoziologie I*, 582–613. Tübingen Mohr, 1988 [1915].

Weber, Max. "Science as a Vocation." In *From Max Weber: Essays in Sociology*. Edited by H. H. Gerth and C. Wight Mills, 129–56. London: Routledge, 1991 [1917].

West, John. B. "Ibn al-Nafis, the Pulmonary Circulation, and the Islamic Golden Age." *Journal of Applied Physiology* 105 (2008): 1877–80.

Wohlman, Avital. *Al-Ghazalis, Averroes and the Interpretation of the Qur´an: Common Sense and Philosophy in Islam*. London: Routledge, 2009.

Wohlrab-Sahr, Monika, and Marian Burchardt. "Multiple Secularities: Toward a Cultural Sociology of Secular Modernities." *Comparative Sociology* 11, no. 6 (2012): 875–909.

Wüstenberg, Ralf K. *Islam as Devotion: A Journey into the Interior of a Religion*. Translated by Randi Lundell. Lanham: Lexington Books/ Fortress Academic, 2019.

Zahavi, Dan. "On Self, Empathy, and Shame." *International Journal of Philosophical Studies* 23, no. 5 (2015): 638–44.

Zemmin, Florian. "How (Not) to Take 'Secularity' Beyond the Modern West: Reflections from Islamic Sociology." *Working Paper Series of the HCAS "Multiple Secularities – Beyond the West, Beyond Modernities"* 9. Leipzig University, 2019.