

Abstract Booklet

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Genetically Modified Foods: Science, Culture and Religion in contestation

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Genetic modified foods have been a discussion in Kenya for the last two months and seems to threaten the farmers and the religious community against the scientific specialists who support it. This special set of gene technology that alters the genetic machinery of plants or microorganisms was banned in Kenya in but was lifted in 12th December 2022 by the new government. The government argues that technologies for genetically modified foods offer promise for meeting food security which is the greatest challenge globally. They also contend that this is not a new phenomenon in Kenya since GMO Plants such as cassava, bananas and cotton already exist. This is further buttressed by the argument that Kenyans are already consuming GMO food imported from other countries and that medication such as that of Covid-19 and diabetes are products of GMO. But farmers and religious community, informed by culture, will hear none of this. They have raised their own fears and doubts on the government's intentions. This is replicated in many other communities in the world. This paper shall assess the position of science, farmers and that of the religious communities with the purpose of seeking an harmonious approach. The data for this research shall be collected from the recorded discussions in recent times and researches that have been done in the past in regard to religious communities' attitude toward GMO.

Science-religion as foreign relations: nationalism and inter-nationalism

Adam Shapiro, Independent Scholar

The modern historiographical conception of religion and science – not in terms of specific relational constructs like conflict, harmony, or complexity; but as distinct cultural and epistemological practices about which a relationship can even be posited – developed concomitantly with the origins of the modern notion of the nation state. The science-religion dichotomy played a foundational role in the rise of early modern concepts of statehood in the European context and the subsequent globalization of that political model through colonial and postcolonial constructs. This invites the question of whether and how science and religion concepts underpin the foundations of relations between nation-states and how revisitations of the science-religion concept and its historiography destabilize conventions of international relations. This discussion looks at recent practical implementations of public policy – especially with respect to issues touching on international science and technology as reaffirmations and subversions of the nation-state model.

Death of an Elementary Classroom Pet: Possibilities for the Study of Science and Religion

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In countries like the USA where classrooms often have pets (rabbits, turtles, etc.), it is not uncommon for elementary teachers to be faced with the difficult task of having to deal with the unexpected passing of a beloved animal. Because adults tend to shield children from direct exposure to real death (as opposed to

make-belief death in the media), and death remains a taboo in secularized educational systems, the passing of a classroom pet is for many elementary students the first time they witness a life ending. As such, death of a classroom pet can play a critical role in the child's cognitive and emotional development, hence constituting an important life experience that requires careful, thoughtful, and tactful teacher orchestration. Yet, there is currently a dearth of research on how to effectively address the complex topic of death when teaching life science to children. Faced with a lack of professional preparation, discomfort, ethical reservations, and concern that death may cause psychological and emotional harm to children, elementary teachers tend to avoid the topic rather than treating it as an opportunity to facilitate reflective discussion about science and religion. To fill this gap in the literature, this study examined how a group of beginning elementary teachers in an online teaching methods course responded to a classroom case involving the death of a pet Bunny (their proposed courses of action and rationales). It was found that the pedagogical strategies proposed by teachers focused on four distinct aspects of death (scientific, societal, personal, and religious), with a tendency to adopt pedagogies focused mainly on the societal and personal aspects of death. Religious as well as scientific facets of dying were avoided. It is argued that elementary teachers need opportunities to develop informed ways of discussing science and religion in the context of pet death.

Technological Tradition: Electric Light and the Sabbath in Yiddish Print Culture, 1880-1939

Alona Bach, MIT

This paper examines depictions of electric light in Yiddish print culture between 1880 and 1939, with specific attention to the invocation of electric light with respect to the Sabbath. Drawing upon cultural histories of electricity, as well as scholarship on the literary imaginary of the shtetl and the history of halakha (Jewish law), this paper considers two complementary tropes of electric light within the Yiddish corpus. These tropes provide a non-hegemonic case study that demands new ways of understanding "religion" as an analytical category in STS.

In the first trope, electric light is invoked in narratives of migration and urbanization to structure dialectical representations of traditional life in the "alte heym" (the "old home") and secular life "in der fremd" ("among strangers"). In fiction, cartoons, and poetry published in Europe and North America, electric light – juxtaposed with Sabbath candlelight – reflected the emotional toll of isolation in a new urban environment, as well as the uneasy coexistence of tradition and modernity. Meanwhile, in the second trope, violating the Sabbath came to be represented through the action of turning an electric light on or off. The prohibition against the use of electric light on the Sabbath was, in turn, predicated on a detailed technical understanding of electric bulbs and circuits, linking technical and religious literacy.

Overall, this paper rejects the notion that religion and technology are necessarily opposed (the conflict thesis of religion and technoscience) or part of a linear progression (the secularization thesis). Instead, it shows their entanglement – how engagement with the minutiae of electrical lighting technologies, as well as close attention to the visual and affective impact of the light they produced, played a crucial role in constructing the cultural meanings of electric light that circulated across a transnational community of Yiddish speakers.

Fighting atheism with mysticism? The case of late Ottoman society

Alper Yalcinkaya, Isik University, Istanbul

As previous studies have shown, a key concern among Muslim Ottoman intellectuals in the late nineteenth century was the apparent popularity of materialist ideas among educated young people. That learning the new sciences should not lead young Muslim Ottomans to adopt materialism and question, if not abandon, their religious faith was the topic of many books and articles published between the 1870s and the 1910s. In this paper I look at how Islamic mysticism (sufism) fared in these debates, and indicate the two contradictory ways in which sufi traditions were represented and reconstructed. On the one hand, there emerged more interest in the potential aid of mystical interpretations of the Qur'an in the fight against materialism and atheism since the former could be represented as in harmony with science (e.g. the theory

of evolution) without posing too great a challenge to orthodox beliefs. On the other hand, the stereotypical associations of sufism with hedonism and lethargy emerged as a threat itself, particularly in the writings of more puritanical warriors against materialist atheism. I consider how the debate about science and atheism thus led to new understandings of the sufi tradition in the late Ottoman intellectual world.

The framing of public opinion about abortion in China and the United States: The contextual roles of belief and unbelief

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Across the world, views about abortion vary substantially. While in some countries abortion is seen as a controversial moral topic, in others it is viewed as a medical technology issue that offers an important means of population control and family planning. The majority of research that has been done on the factors shaping public opinion about abortion has been done in Christian majority nations. These studies tend to find that people who feel that religion is important are more likely to disapprove of abortion. Likewise, in countries with higher overall levels of religiosity, the attitudes of religious and secular people alike are shaped by the national religious context. Very little research has been done on the factors shaping views about abortion in countries that do not have majority Christian populations.

Taking a comparative case study approach, this study examines the roles of religious belief and unbelief in shaping how abortion is framed in the United States and China. These two countries were selected because of their contrasting religious contexts. The United States has a Christian majority and highly religious population. Conversely, Buddhism is the dominant religion in China, which has low overall levels of religious belief. Additionally, they are two of the three largest countries in the world. As such, they have a powerful global social, economic, and political impact.

The World Values Surveys provide insight into how personal characteristics shape disapproval of abortion in China and the United States. I then use interviews with 40 informants (e.g., religious leaders, abortion doctors, journalists, academics, etc.) to better understand how residents see abortion, the roles of belief and unbelief, and other factors shaping perspectives in these two countries. The findings offer fascinating insight into how abortion, personhood, and morality are framed in these different contexts. The interview findings, which are included in a book that is currently under review with Oxford University Press, have not been previously presented.

Beliefs, reproductive medicine and ethical dilemmas: the question about human embryos in users of Assisted Human Reproduction Techniques (ARTs) in Argentina

Ana Lucia Olmos Alvarez, CONICET - National University of Avellaneda (Argentina)

This article explores the question of human embryos in the contemporary Argentinean scenario focusing on perceptions and representations of assisted reproduction techniques (ART) users.

It is understood that the socio-historical, legal and religious frameworks, family imaginaries and biographical experience are central to configuring these perceptions and representations.

Furthermore, the analysis delves into the possible ethical tensions concerning embryo management (cryopreservation, donation, destruction) and the resolution strategies deployed by ART users.

As an analytic tool, we referred to 'repertory' as a process which includes a set of socially available resources to perceive, evaluate and act in certain situations. These repertoires allow accounting for dynamic and situated practises, informed by context and according to the power relations between the actors involved. Based on in-depth interviews with ART users, we typified particular moral decision-making repertoires about embryo management as follows: ethics of life, ethics of kinship, commodification ethics, altruism and scientific scepticism.

The data presented in this paper comes from the inputs of the project Science & Catholicism: Perspectives and Circuits of Dialogue between Contemporary Europe and Argentina in Six Scientific Areas

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Spiritual atheists: an emerging identity?

André Gadelha Weyne, University of Sao Paulo

In recent decades, many theorists have endorsed the view that spirituality is independent of religiosity. In fact, some authors have proposed that it is not even necessary to believe in God and other supernatural beings in order to have spiritual experiences. This makes it possible for atheists to develop some kinds of spirituality. On the other hand, some findings in the literature indicate that individuals in this population are not as likely to declare themselves as “spiritual” people. While these data may be reliable and representative, it is possible that they reflect a bias in how researchers have identified atheists in their studies. Specifically, perhaps identitarian atheists – i.e., those who disbelieve in God and classify themselves as atheists – are more alienated from spirituality than non-identitarian atheists – i.e., those who disbelieve in God but prefer not to classify themselves as atheists –, and the latter group is perhaps being neglected in many studies. Given this hypothesis, we propose to investigate whether non-identitarian atheists have more subjective spirituality (i.e., self-perception), more vertical spirituality (i.e., transcendental beliefs and experiences) and are more inclined to classify themselves as “spiritual”. In addition, we aim to test a predictive model based on the following hypothesis: vertical spirituality predicts non-identitarian atheism in a relationship moderated or mediated by subjective spirituality. Vertical spirituality will be measured by the Belief in Spiritual Beings Scale (Gontijo & Damásio, 2022), Supernatural Beliefs Questionnaire (Bullivant et al., 2019), Mystical Experiences Questionnaire (Schenberg et al., 2017), The Duke Religion Scale (Koenig et al., 1997) and an item measuring meditation practice. This project is being funded by a subgrant from the John Templeton Foundation. Data is currently being collected (February 2023) and presented at the 4th Annual Conference of the International Research Network for the Study of Science & Belief in Society.

Thinking on the Complexity Principle in Popular Culture

Anthony K Nairn, York University/ISSR

The ‘complexity principle’ (sometimes incorrectly referred to as a thesis) is the current paradigm of the field science and religion for humanities scholars generally. Taking contextual variability, not master narratives, as its pedagogical insight, complexity, in a way, ensures that scholars embarking on research at the contact points science and religion approach their research with an openness that isn’t compromised by the false narrative of complexity. But, popular culture (at its broadest) seems steeped in complexity when texts confer on science and religion. Although some obvious examples do not engage the conflict thesis in their narrative (Dune, Tree of Life, Noah, for example) and engage in more thoughtful discourses surrounding the two enterprises connections, disagreements, reach and limits, these are the exception and not the rule. Much of the most popular and best selling texts in Hollywood blockbusters, video games, and television, and especially news media, propagate the conflict thesis as if conflict is the inevitable outcome of these two epistemic cultures. Looking at pedagogical practices in history, philosophy, and theology over the past 25 years, my objective will be to assess how humanities scholarship on science and religion can be applied to popular culture studies, and probe the possibilities of expanding upon science and religion scholarship with emphasis on media focused research questions, such as affect, meaning-making, and more.

The non-religious in Argentina: discourse and positions regarding science, religion and their relations

Arturo Fitz Herbert, Universidad Austral

Despite still being a country where the majority is religious, in the last decades the non-religious population has grown in Argentina and today represents 18.9%. Nowadays, it is the second largest belief category after Catholics (62.9%) (Esquivel, Funes & Prieto, 2019). However, this group presents great heterogeneity between those who identify themselves as non-religious (9.7%), atheists (6%) and agnostics (3.2%). Based upon a qualitative study that includes in-depth interviews and focus groups with non-religious, it will be analyzed how individuals define religion and science, the degree of knowledge about these concepts and the positions they take towards them and their relationships. It will be shown that it prevails a Christian understanding (Asad, 1993) of religions as belief systems with moral norms supported by institutions. Also, that there is a high appreciation and recognition of the status of science, despite that many individuals also show a low understanding of scientific concepts and of the differences between science and technology. Upon these shared bases, different positions towards religion will be shown, ranging from indifference to anti-science, and also different uses of the scientific discourse to support these positions. Finally, the case will be compared with that of other nations, especially the United States, which despite sharing with Argentina the religious majority, presents relevant differences, such as the stigmatisation of non-believers (Smith, 2011) or the relevance of the debate on the theory of evolution (Kaden, 2018).

Science, religion, regions and the acculturation of basic human values across three African countries: Ghana, Nigeria and South Africa

Bankole Falade and Vivian Dzikoto, University of Bielefeld, Germany and Virginia Commonwealth University, US

Psychological values are enduring and desirable end states that people strive towards or aim to uphold and among others guide action according to the relative importance of multiple values (Schwartz, 1996). Life in contemporary African settings, where belief in God remains very strong, however involves negotiating psychological and religious values in a world increasingly influenced by scientific innovations. This presentation examines the coexistence of psychological values, attitudes towards science and belief (or non belief) in perceptions of the world we live in.

Using data from the World Values Survey for Ghana, Nigeria and South Africa, we reduced the Schwartz 10 psychological value scales to three latent variables named: 'The World', 'Our World' and 'My World' representing distances from attitudes towards The World at large (societal demands for group welfare and survival), Our World or Community (interactional requirements for interpersonal coordination) and My World or Self (biological needs). We then used regression analysis to examine the predictors of these values across and within country. Preliminary findings show that across countries, education is significant for positive attitudes to Our World and The World while science as progress is also significant for perceptions of Our World. More variations on significant predictors however occur within country indicating the strong influence of local cultural values. A very interesting finding is the significance of the Importance of God variable for all three world-views in South Africa but only My World in Nigeria and Our World in Ghana. Perceptions of the relationship between science and religion is also important in Ghana. What can be inferred from these findings on the plurality of belief systems, the coexistence of science and beliefs and attitudes of Africans to self, community and the world.

Christian student experiences during peer interactions in undergraduate biology courses

Baylee Edwards, Arizona State University

Though Christians are often privileged in the United States, recent studies show that Christianity is stigmatized in the context of biology. More specifically, in secular biology environments, Christianity is an example of a concealable stigmatized identity because it is typically a hidden identity. Students with concealable stigmatized identities must decide whether to reveal their identity to their peers, and studies show that they often face unique challenges regardless of the decision they make. However, it is unknown whether Christian students experience such challenges during peer interactions in their biology courses. Thus, in this study, we used the social psychology framework of concealable stigmatized identities to

explore (a) how salient Christian students feel their religious identities are during peer interactions in biology, (b) their tendency to reveal their religious identity to their peers, (c) how beneficial they perceive it is to reveal to their peers, and (d) whether they anticipate and experience stigma when revealing during peer interactions. We interviewed 30 undergraduate biology students, used inductive coding to create a codebook, and, after establishing interrater reliability, used the codebook to code all interviews to agreement. We found that most students felt their religious identity was salient during peer interactions. Students thought revealing their religious identity to their peers could be beneficial for multiple reasons, including combatting negative stereotypes about religious individuals in science, yet few students actually revealed their religious identity to peers. Most students anticipated stigma about their religious identities, including that others may think that they are less competent in biology and that there must be a conflict between religion and evolution. However, comparatively few had experienced stigma during peer interactions in their biology courses, and even fewer had experienced stigma from peers who knew they were religious.

Polio and priorities of protection: vaccines and conceiving immunity in a comparative perspective

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Do decisions around childhood vaccination entail a negotiation of science and religion? Public health studies construct evidence that religious 'beliefs' are a cause of vaccine 'hesitancy' and refusal, without explaining what these beliefs are. Drawing on long-term ethnographic research conducted in the UK and comparative research in the US, this paper explores how parental decisions and dilemmas are less concerned with negotiations of science and religion than 'secular' conceptions of immunity and protection.

This paper focuses on the 2022 polio outbreaks in the US and UK, where Jewish orthodoxies were vulnerable to transmission due to lower-level vaccination coverage and the context of transnational circulation. Vaccine engagement and catch-up/booster programmes were deployed to increase uptake among Jewish families in the UK and US. An ethnographic and comparative approach indicates that religion per se does not cause vaccine decisions to be negotiated, but rather the structures of religious life such as limited or select science education, access to communications, and family sizes shape how vaccines are perceived and valued. Understanding how parents determine the priorities in protecting child health and how they conceive immunity may support vaccine engagement and delivery strategies to make the impact required to protect population health.

Beyond Dichotomies: Understanding Proenvironmental Behaviour in Turkey

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Tugrul Hakyemez, Istanbul Bilgi University
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Bron Taylor, University of Florida

Turkey, along with many other countries that follow the neoliberal developmentalist path, had to face various ecological issues ranging from climate change to plastic, chemical, and air pollution. These issues necessitate an immediate response at the individual and societal levels. Within this backdrop, in this study, we examined various characteristics and attributes that hinder or promote proenvironmental behaviour in Turkey by analyzing the data we gathered from the research that was supported by the INSBS. We conducted surveys with individuals having diverse demographic and socio-economic profiles. We drew on a novel survey instrument that has been developed by Taylor, Wright, and LaVasseur (2020), combined with an additional and novel survey scale focusing on the world's most prevalent religious perceptions and beliefs. To answer our research question, we tested our hypotheses in a non-western, predominantly Muslim context. The results of our multiscale, multidimensional analysis indicated that our responses to ecological issues can benefit from alternatives to the "secular" scientific understanding, considering that values, beliefs, and norms play an important role in proenvironmental behaviour. Therefore, it is significant

to encourage initiatives aimed at fostering a dialogue between science, religion, and spirituality in diverse cultural settings and regarding various ecological issues.

Agentic Atheists and Communal Christians: Increasing Christians' participation in science and reducing negative stereotypes through communal attributes

Cameron Mackey, Ohio University

Previous work has shown that Christians are underrepresented in science, despite making up the majority of the US population. One potential explanation is that Christians self-select out of science jobs because they see science as conflicting with their values. Some research suggests that Christians value communality (e.g., "getting along") and value occupations in which they can obtain communal goals (e.g., teacher). Science, by contrast, is typically valued as affording agentic goals (e.g., "getting ahead"). Christians' emphasis on communal values contrasted with science's emphasis on agentic values may help explain Christians' underrepresentation in science. In a pilot study, we demonstrate that Christians value communal traits more than other religious groups. Then, in Study 1, we presented a "day in the life of a scientist" vignette used in previous research on women in STEM to Christian and nonreligious participants. We manipulated the extent to which science would be viewed as communal by Christians under the assumption that doing so would increase Christians' interest in a research assistant position. We found that Christians in the communal condition expressed more interest, trust, and belonging in the research assistant position in the lab. Furthermore, we found that belongingness mediated the relationship between condition and trust and interest in the lab position and religious affiliation and religiosity moderated this mediation effect. Study 2 and 3 were replication studies of Study 1. Both studies additionally tested the extent to which participants perceive 1) social distance from science, 2) allyship with the scientist in the vignette, 3) the extent to which the scientist in the vignette recognizes bias against Christians in science, and 4) the extent to which the scientist in the vignette is religious as an exploratory measure.

Projecting and Counter-Projecting the Conflict Narrative

Carissa Sharp, University of Birmingham

The "conflict narrative" between science and religion is prevalent across western cultures, but is a narrative particularly prevalent among the nonreligious, who make up a large percentage of the UK population (Elsdon-Baker, Leicht, Mason-Wilkes, Preece, & Piggot, 2017). We predicted that non-religious individuals would project their perceptions of science and religion onto others, with significant consequences for their perceptions of religion, science, and individuals with related social identities, but that religious individuals would not. Interestingly, Study 1 (n = 2,129) shows that in general, people in the UK project their own perceived ability to reconcile evolution and their personal beliefs onto others; however nonreligious participants do not do this for religious targets, instead counter-projecting a perception of conflict. Additionally, using an adaptation of the Ingroup Projection Model, mediation analyses show that this projection and counter-projection affects people's attitudes. For nonreligious participants, both perceived ingroup prototypicality and perceived outgroup prototypicality of ability to reconcile evolution and personal belief relates to increased preference for science over religion. In Study 2 (n = 474) we performed a conceptual replication of this mediation model, where we found that atheists (but not agnostics) in the UK counter-project difficulty reconciling evolution and personal beliefs onto religious individuals. Additionally, as in Study 1, both perceived ingroup and outgroup prototypicality of ability to reconcile evolution and personal belief relate to ingroup preference.

Believing and Doubting in Science and Religion. Observations among Non-religious People in Mexico

Carlos Nazario Mora Duro, Tübingen University

According to the 2020 census in Mexico, people without religion, unaffiliated, atheists, and agnostics represented 10.6% of the total population, i.e., 13.3 million individuals. It implies that this group exhibits the highest growth rate within the Mexican religious field, showing a similar trend of increase as the other North American countries. Through a qualitative approach to the life trajectory of non-religious in Mexico City, this paper proposes categorising the relationship that individuals sustain with religion through three observed profiles: the secular natives, the de-converts, and those who derive from lax religiosity. Regarding their relationship with the discourse and practices of science, the findings show different positions such as belief in science, science as a horizontal discourse as other social spheres, and criticism of scientific authority. An underlying assumption of this approach is the possible correlation between attitudes towards science and the religious background found in life history.

Conflict narrative and perceptions of religious threat: Atheists vs New Atheists

Carola Leicht, University of Kent

Research on science and religion has called for a more in depth understanding on how forms of non-belief relate to science and religion (Elsdon – Baker & Leicht, 2017). This paper will present findings of two cross sectional surveys of self-identified US ($N = 500$) and UK ($N = 500$) atheists, as well as one Experiment. Two-step cluster analyses shows that self-identified UK and US atheists form two distinct groups (atheists vs new atheists), depending on their attitudes towards science, religion and spirituality. Both surveys also show that new atheists and atheists differ on their perceptions of the relationship between science and religion, their identification with atheism and their belief in science. Study 3 primed 166 UK atheist participants with the idea that science and religion are either in conflict, compatible or with a control condition. We replicated the cluster analysis and additionally show that new atheists ($N = 105$) perceive less religious threat after the compatibility prime. We discuss how our studies inform our understanding of atheism as well as intergroup relations between atheists and religious groups.

Cosmologies of Climate Crisis & Concern

Caroline McCalman, University of Birmingham

This submission responds to the provocation “Methodological approaches to, and issues in, the study of science, religion and belief in society.” I invite scholars to consider whether the concept of cosmology might be better, in some instances, than the commonly used ‘worldview’. Despite being used across a wide variety of disciplines – e.g., religion, philosophy, mythology, and even physics and astrophysics – the fundamental meaning of cosmology remains consistent, further aiding scholars through the elimination of discipline-specific jargon. Broadly stated as the study and contemplation of the universe, cosmology can be considered a triune theory of being comprising theory of origin, theory of development, and theory of purpose. As such, I argue that cosmology has an integral structural framework which is both methodologically useful and theoretically robust.

I present an overview of the concept and give examples of both classical and modern cosmologies underpinning my previous doctoral work on nuclear power and environmentalism. I show how the concept enabled me to identify elements of current environmental discourses with roots in much older ideas about the relation of humans and the cosmos, and how these ancient notions of origin, development, and purpose impact modern ideas about controversial and disruptive technologies.

Brian Greene, Richard Dawkins and Speculations on “Lived Science” in Popular Culture

Christopher White, Vassar College

At the 2013 World Science Festival, the physicist Brian Greene and the biologist Richard Dawkins discussed science, religion and popular culture in a packed auditorium. During their dialogue, Greene politely confronted the atheist Dawkins with several unexpected comments and speculations. For instance, though Greene confirmed that he too was an unbeliever, he playfully apologized to God several times for his unbelief. He also admitted that he found himself sometimes talking to his dead father, and averred he had “no problem with a really smart physicist-type God” who might have created everything. Dawkins responded gravely: That sort of thinking was destructive of the very foundations of science. The whole enterprise of science was explaining things and one cultivated bad intellectual habits by inserting into science anything nonphysical or supernatural.

In this paper I examine how this dialogue troubles our understanding of scientific boundary-work, the scientific temperament, and the contested place of speculation in science. Dawkins is the inheritor of a centuries-old tradition of scientists insisting that their work be free of vulgar superstitious or irrational impulses. But Greene shows us something different—he represents a countervailing tradition in which scientists in public settings sometimes move beyond the boundaries of the secular, scientific persona. Greene’s speculations at this festival and in recent pop science books reveal several things not generally commented on. They reveal that the secular, scientific self, while necessary in professional settings, is sometimes experienced by scientists as not enough in the face of lived realities such as suffering, existential dread, and death. In this way, his work demonstrates that alongside a professional, scientific sphere there also exists a more popular realm of “lived science” in which scientists and their audiences negotiate science’s meaning and deploy it to comfort, entertain and address more speculative concerns.

Were more religious people less willing to be vaccinated against COVID-19?

Daniel Foschetti Gontijo, Instituto Ponto Azul

Some researchers have investigated whether religiosity is one of the causes of people’s hesitancy to get vaccinated against COVID-19, but the results of the literature are inconsistent. This study aimed to test whether the intention to vaccinate could be predicted by participants’ religiosity, controlling for variables such as political orientation and trust in scientists. Study participants were 270 Brazilians, who used an online platform to respond. Intention to be vaccinated was assessed by the item “When the COVID-19 vaccine is offered, will you get vaccinated?”, whose response options ranged from “1 – Definitely not” to “5 – Definitely yes”. Organizational religious activity (ORA), non-organizational religious activity (NORA) and intrinsic religiosity (IR) were assessed by The Duke Religion Scale (DUREL). Unlike NORA and IR, the participants who had higher levels of ORA were less willing to be vaccinated. The possible mechanisms that explain these findings will be discussed.

“Science is Justified by Works, not by Faith”: American Biologists reject Ernst Haeckel’s Evolutionary Religion, 1874–1924

Daniel Halverson, University of Toronto, Institute for the History and Philosophy of Science and Technology

At the turn to the 20th century, Ernst Haeckel was the world’s leading popularizer of Darwin’s theory of evolution by natural selection. His worldview was defined by a militant atheism, a commitment to polemics and the advancement of a unique monism. I examine the works of eight American biologists who wrote about evolution and religion during Haeckel’s lifetime, and shortly after. In this paper, the first systematic discussion of the Haeckel reception among biologists in the United States, I find that they routinely rejected him and his evolutionary monism. In some cases they disputed his religious opinions, in others his assessment of the facts, but they most often complained that Haeckel frequently overstepped the bounds of legitimate science by dogmatizing and speculating. As the zoologist William Keith Brooks wrote for the journal *Science*, “Science is justified by works, not by faith, and when Haeckel says ‘Credo’ and not ‘Scio’ we need not discuss the value of his belief.” In the United States, the principal group which embraced Haeckel’s identification of evolution with atheism were Protestant fundamentalists, who regularly pointed to

Haeckel's anti-Christian polemics as the manifestation of everything they feared Darwinism portended for the future.

The "Real Story" or the "Best Story": Science and Faith Representations in Life of Pi

Daniel Reiser, Herzog College

Yann Martel's 2001 bestselling novel *Life of Pi*, later released in 2012 as a prize-winning box office hit, addresses themes such as religion, faith, imagination, and their relation to science, psychology, and human life. In this paper, I will address the represented tension in the book/movie between science and religion as it is occasionally perceived in western society, and the author's deep attempts to disprove these perceptions. I argue that the creative interpretations of *Life of Pi* touch directly upon broader questions of faith and science, and thus I place them into conversation with the teachings of William James, Martin Buber, and Ludwig Wittgenstein and in a confrontation with Karl Marx's and Friedrich Nietzsche's secularism.

Does Science "Pierce the Truth of Every Religion"? Exploring the Impact of Formal Education on Science and Religion in Ghana

De-Graft Agyei, Adote Anum, Vivian Dzokoto, University of Ghana, Virginia Commonwealth University

Recently, there has been an upsurge in studies on the influence of education on science and religion across the globe. Religion and science may be distinct, but scholars agree that they provide lenses for understanding the world and finding solutions to its problems. However, the literature has not adequately addressed the role of formal education in influencing religion and science. Against this backdrop, our study aimed to assess the extent to which formal education has impacted Ghanaians' acquisition and transmission of scientific and religious beliefs, values, and behaviours. Like many developing countries, Ghana's educational system is hybrid in nature—both secular and religious. This quantitative study examined the differences in which cognition and cognitive ability mediate the relationship between religious cognition, cognitive ability and attitudes toward science. A sample of 354 respondents, aged 8 to 40, was selected from two communities in Ghana. Various questionnaires were used to assess participants' beliefs, values and attitudes towards science and religion as experienced through exposure to formal education. The outcome of this study will, in the long run, contribute to the ongoing debate on science, rationality, and religion. As there is a belief that "religion impedes rationality," our study provides insight into the major theoretical issues related to religion and the impact of science and religion on science in Ghana. In terms of policy contribution, this study would help policymakers understand the impact of religion on science and how it affects how science is presented and implemented in Ghana and Ghanaian education.

Icemen, Scientists and The Thunderbolt Path: The role of science in the interest of Tantric Practices within Vajrayana Buddhism.

Diane Fereig, University of Alberta

The exploration of mind-body consciousness has developed substantially over the last half century, bringing with it questions about ancient religious techniques, their efficacy and role in a secular environment. Part of ongoing research of the dialogue between science, religion and transnational culture, this paper explores one aspect through the lens of increasing interest in the once-secret completion-stage practices of the Vajrayāna Buddhist tradition, specifically, inner-fire (*gtum mo/caṅḍālī* (Tib/Skt)). The majority of current Buddhist-centered studies remain focused on mindfulness and the cultivation of compassion. However, secularized practices of inner-fire and related techniques continue

to gain the attention of the scientific world, and presently outnumber the studies of gTummo and its related practices.

Wim Hof Method is one such practice. Wim Hof, who first attracted attention for his Guinness World Records achieved through feats in extreme cold, continues to cultivate a large popular following, among them, several converted doctors and scientists. What role does this interest play in the practice of gTummo and the practice of the Tibetan religions of Bön and Vajrayana Buddhism? How does the community receive this surge of interest and how is religion viewed by those who are interested in the technique? How does this affect perceptions of the practice of inner-fire and what kind of dialogues occur between communities? This paper explores these questions within the context of the current surge of available online programs, those engaged in the courses, and the perspectives of those on social media.

The Structure of Religious Revolutions: An Argument for a Kuhnian Analysis of Religious History

Dominic McGann, University of Oxford

This paper argues in favour of the efficacy of applying a Kuhnian understanding of scientific paradigm shifts to an analysis of the evolution of religious belief systems over time. The author begins by providing a reading of Kuhn's notion of paradigm shifts, drawn from *The Structure of Scientific Revolutions* (1962), which allows for this analytic tool to be applied to a far greater range of intellectual disciplines than the physical sciences with which Kuhn was initially concerned. Instead, this paper contends that a broader reading of the framework of Kuhnian paradigm shifts can be applied to any period of history in which a core set of beliefs or theories undergoes significant alteration.

Following this preliminary argumentation, the author identifies that such alterations in belief systems occur at least as much in the history of religion as they do in the history of science. In arguing that religious and scientific belief systems are both members of the broad category of 'evolving intellectual systems', this paper employs its aforementioned interpretation of Kuhn's work as a method for understanding the change in religious belief systems through time, as illustrated by an historical example of the Protestant Reformation. In concluding that a Kuhnian analysis of the history of religious belief systems is possible, the author intends for this paper to add to a growing body of work which illustrates the similarities that can be highlighted between the intellectual fields of science and religion.

Mindfulness and Science/Religion Interaction: Recent Developments and Emerging Challenges

Doug Oman, University of California, Berkeley

Mindfulness, a traditional Buddhist practice that in recent decades has been adapted for use in modern healthcare, educational, and other settings, is often mentioned as an important and illustrative example of the constructive interaction between science and religion in society. For example, Vollmer and Von Stuckrad's (2016) chapter in the *Oxford Handbook of the Study of Religion* refers to a "Buddhism-science success story" (p. 463), and much interest in mindfulness has emerged in health and human service professions. However, there have also been strong civic and scholarly critiques of the limitations of the mindfulness movement, such as Purser's (2019) *McMindfulness: How mindfulness became the new capitalist spirituality*. The present presentation will describe relevant ideas from the author's forthcoming 30,000+ word target article, "Mindfulness for Global Public Health: Critical Analysis and Agenda." It is forthcoming (expected online Feb 2023) in the journal *Mindfulness* (now in volume 14), whose editors are planning a special issue devoted to commentary on it, as the journal's first-ever target-article-focused special issue. Noting the apparent scientific promise of mindfulness, but the almost complete absence of attention to mindfulness in top-tier public health journals, the article compares global and public health with mindfulness along 14 dimensions for their compatibility. The fields possess foundational compatibility in their orientation to prevention, recognition of the importance of stress and mental health, and interest in intervening across social sectors (e.g., schools, workplaces, etc.). But the mindfulness field lags public health in attention to other dimensions areas that include cultural and religious adaptation to end-recipients as well as administrative cultures, and intercultural, interreligious, and intercontemplative skills

for presenters (intercontemplative refers to interactions between individuals committed to different types of contemplative practice). The presentation will explain these and other key ideas and updates, also speculating about a possible need to reframe the promise of mindfulness.

Science, Belief and Public Image in 19th-century Medicine: Mesmerism, Narcotics and Surgical Anaesthesia in Britain and Hungary, 1831 – 1848

Eszter Pál, ELTE (Eötvös Loránd University of Sciences, Budapest, Hungary)

The paper explores the relationship between science and spiritualism/belief through a unique chapter of medical history. The presentation focuses on the first forms of surgical anaesthesia from a comparative angle: it discusses the so-called magnetic (or mesmeric) and narcotic pain relief methods in Great Britain and Hungary. The paper describes the emergence and pattern of diffusion of these two innovations spreading from different geographical centres. Magnetism spread in various directions from Vienna and Paris, whereas surgical narcosis spread from North America and Britain towards the East. Surgery and 'magnetic' mind-altering procedures briefly intertwined on the Western part of the continent, creating the first method of surgical anaesthesia, but it remained a marginal and geographically isolated method. Surgical narcosis, on the other hand, spread fast and far, with its potentially fatal side-effects not altering the pattern of its diffusion. The study is based on an analysis of medical articles and archival records of medical society meetings of the period between 1831 and 1847. The discussion highlights the role of belief, public image, and evidence-based science in 19th-century medicine.

Gender, Science, and Atheism in the Greek Left Intelligentsia during the Interwar period

Evangelia Chordaki, National Hellenic Research Foundation

The current paper discusses the relationship between masculinities, science, and atheism in the Greek Left Intelligentsia during the Interwar period. In doing so, I study the magazine *Protoporoí* (Πρωτοπόροι), which was published between 1930–1931. This exceptional archival material is a product of the "progressive intelligentsia" published by a group of leftist artists and belletrists and supported by the Greek Communist Party. More specifically, the paper addresses the following research questions: A. How did specific groups of communists/leftists conceptualize science? B. What were those groups' definitions of atheism? C. What was codified as masculine in the intersection of atheism and science? D. How were claims and meanings about science and atheism associated with certain masculinities? The research follows two parallel axes: on the one hand, I focus on the narratives over and about science within the scope of atheism and vis versa. On the other hand, I examine the role of gender in the intersection of those notions and the emergence of specific types of masculinities related to particular social and world order and/or specific epistemologies and visions. Emphasizing the complexity of those notions as they appeared under specific historical, political, and geographical conditions, I argue that the intertwining between Science Studies and Masculinity Studies allows us to understand in depth the differences that knowledge-making practices construct and the consequences of those differences in the existing world and the futures envisioned.

Two lives of a scientist? Identity work in the ego-documents of the Finnish chemist-turned-Adventist Henning Karström

Eve Hyrkäs, University of Oulu

Even though I did not believe then ..., at that moment I received a supernatural command: 'Do the preliminary test tonight!'" This is how the chemist-turned-Adventist Henning Karström (1899–1989) described the makings of an experiment that led to a key observation behind Finland's first Nobel prize (awarded to Karström's supervisor and close colleague A. I. Virtanen in 1945). Karström was born to a Christian family but lost personal faith in his youth – partly because evolutionary theory was so forcefully indoctrinated in biology classes. Karström worked as a biochemist for two decades but was always left

wanting spiritually. After a desperate period in 1934, he found his way to the Seventh-day Adventist Church in Finland; however, it still took 12 years of brewing before Karström “was compelled” to “abandon” science to become the head of the Adventist school and part-time sanatorium Toivonlinna. While Brooke’s complexity thesis has become commonplace in the histories of science and religion, the narrative of conflict often still pervades public opinion. Karström’s memoirs too make the point that he had lived “two lives”. But does this reading do justice to Karström’s self-understanding? For instance, Karström clearly felt that divine guidance had been conducive to a scientific heureka moment. In this presentation I rely on Karström’s ego-documents to explore how he reconciled science and faith and how these categories were employed in his identity work. Further, I ask – taking note of Joan W. Scott’s argument that experience immediately becomes interpreted in the process of identity production – how the difference between a man of science and a man of faith becomes established, and how the narrative forms in the surrounding culture have been used to make sense of inner experiences.

The Mediating Role of Motivational Religiosity in the Effect of Personality Trait on Risk Perception and Protective Behaviors During the Covid-19 Pandemic in Türkiye

Fatümetul Zehra, Erzincan Binali Yıldırım University

In early 2020, when the World Health Organization (WHO) officially declared the COVID-19 outbreak as a global public health emergency; Social isolation, hygiene, distance, etc. to prevent the spread of the COVID-19 epidemic. A number of behavioral measures aimed at controlling the contagion, such as During the Covid-19 pandemic, people in Turkey have been instructed by the health authorities, at the direction of the country's government, to display protective behaviors to avoid infection. Social distance, mask use, isolation and hygiene are among the most important behaviors recommended to protect against the epidemic. In the past years, knowledge and experiences from previous epidemic crises have scientifically proven many times that a series of mental health problems such as anxiety, depression, stress disorder, anxiety and panic occur among individuals exposed to such epidemic situations. When considered in the context of mental health problems, motivational religious behaviors should be considered as an effective ally, as well as the various coping strategies suggested to reduce individuals' mental problems. This study aims to evaluate the relationship between the Covid-19 risk perception, protective behaviors, personality traits and religious behaviors of adults in the process of coping with the COVID-19 epidemic. However, it is known that all these behaviors vary from individual to individual. Therefore, in this study, it is aimed to examine the multifaceted effects of the Covid-19 pandemic process on individuals living in Turkey in terms of risk perception, protective behaviors, individual differences and motivational religiosity. A survey of 440 participants with most were female (80.2%) and single (68.2%) were obtained by random sampling through online. However, detailed analysis of the obtained data has not been completed yet.

Hinduism and the role of women in STEM

Feryl Badiani, Victoria University of Wellington

Hinduism is the world's third largest religion. It consists of thousands of gods that hold a different level of significance and are each prayed to differently based on the linguistic community an individual belongs to. There is a general correlation between the dominant occupation in a community and the way they practice Hinduism, which has a spillover effect on the extent to which women in the community can access STEM education and occupation. This project focuses on two Indian linguistic communities: Gujaratis and Maharashtrians. Gujaratis are predominantly traders, with the business being passed down within multiple generations of the family. Maharashtrians, on the other hand, usually take up more low-risk salaried positions. Qualitative interviews were conducted to investigate the link between the economic niche and religious practices of each community. Findings show that amongst Gujaratis, each family's religious piety and practices contribute to their reputation and their market standing. As such Gujaratis have extremely patriarchal family structures, with men being expected to be the breadwinners. An interesting secondary finding was the impact this has on women's engagement with STEM. Gujarati women are bound to their child rearing role by elaborate religious rituals, which include tending to a baby avatar of Lord Krishna,

feeding him, bathing him, clothing him, etc. As such, they are discouraged from accessing STEM fields. In contrast, education more so than family piety is strongly connected to Maharashtrian occupational success. Hence, all Maharashtrians pray to Ganesh, the god of knowledge, and Maharashtrians of all genders are expected to have a good education and subsequently occupation. This is reflected in census statistics that show that many more Maharashtrian women than Gujarati women are educated and employed in STEM fields. Hence, this project demonstrates how the religious diversity in the practice of Hinduism impacts how women engage with STEM.

Embryo imaginaries in the intersection of Science and Belief. Results of the quantitative Science, Health, Belief and Society Survey in Argentina

Gabriela Irrazábal, CONICET-Ceil

This paper addresses the question of the imaginaries and representations of human embryos among general adult population in Argentina. The ontological status of the human embryos has been a subject of discussion among different disciplines in the humanities and social sciences. This matter has great interest in contemporary theoretical discussions and less attention has been paid to the ideas and imaginaries around the embryos that the general adult population has. This subject has been researched more in ethnographic than in quantitative studies. We will provide results of a cross-sectional national quantitative study where 4531, +18 years old residents of Argentina responded questions about what the human embryos are for them. Their answers vary from considering them as persons, cells, with the possibility of been adopted, given to someone else or destroyed. We will specifically compare results among Catholic, Evangelical Christians and non-religious residents of Argentina. We will establish different current ethical perspectives regarding human embryos in contemporary society focusing on the intersections of science and belief. We would like to contribute to the bioethical and public health debate considering the different approaches and contested meanings that affect health and well-being of individuals in a contemporary and religiously diverse Argentina.

Beliefs, traditions and perceptions of surgical deliveries by women in Nigeria

Ganiyat Tijani-Adenle, Lagos State University, Nigeria

Caesarian births, while increasingly becoming popular, are nonetheless, disliked. Women sometimes seek non-orthodox alternatives when faced with the option of caesarian section. Public perceptions of the roles of clinical and non-clinical methods by women thus often vary, with roles shifting among gynecologists, traditional birth attendants/herbalists, and spiritual/religious homes. This presentation focuses on surgical deliveries recommended when babies are in the breech position close to the end of the gestation period. Apart from the higher cost of surgical births, women are sometimes covertly guilt-tripped and there are contents in popular culture and anecdotes where mothers-in-law chastise their son's wives for their inability to give birth naturally. Also, the belief that women who deliver through caesarian sections have limitations on the number of children that they can have, has also heightened the apprehensions around surgical deliveries. Some women, therefore, abandon their gynaecology clinics to deliver in spiritual homes/herbalists' centres. Interestingly, many educated Yoruba women in South-West Nigeria have explored the option of turning to spiritual centres for prayers/deliveries or local birth attendant centres for herbs believed to help turn breech babies to cephalic presentation (head-down) positions. This role switch reflects the coexistence of beliefs in science, faith, and African traditions in the birthing process. While many run into problems and develop complications or death, some are able to deliver such breech babies without surgery. Using purposive and snowball sampling, this study will interview educated Yoruba women who have used herbs in changing the positions of breech babies about their experience. Consultant gynecologists, traditional birth attendants/herbalists, and spiritual/religious institutions with birthing homes will also be interviewed about their experiences handling the deliveries of breech babies. This study, guided by classical theories in African traditional religion will argue for a balance between conventional medical practice and African tradition/herbal and/or spiritual cures to medical issues.

Was there anything Islamic about Islamic science?

Hania Tayara, University College London

There is little doubt that scientific endeavours were undertaken in the medieval Islamic world. The more interesting discussion lies in questions about the originality of Islamic thought within scientific discovery. Claims that Islamic science was merely a vessel for Greek theories to reach the West have been widely criticised, and it is essential to consider Islamic science as its own entity. This entails the critical study of the view that Islamic science was simply the translation and appropriation of the Greek texts that heavily influenced its development, and the exploration of whether a certain innovation can be attributed to the scientific modes of investigation of Islamic scholars. This essay considers what characteristics, if any, make Islamic science Islamic at all.

I have chosen to use 'Islamic' rather 'Arabic' science because I discuss Islamic influence in medieval science. However, my definition of Islam has a wide scope that reflects on cultural context beyond religious beliefs, hence Islamic and Arabic could be used interchangeably here. To address the question, I first consider the use of science as a means of facilitating religious practice that requires knowledge of planetary movements. I then take a different direction that explores spiritual influence, and the imposed limitations on science that may arise as a result. For this reason, I choose to interpret the writings of the philosopher Al-Ghazali, whose philosophical work I believe perfectly demonstrates the role of faith in Islamic science. Finally, I argue that scientists who navigated potential conflict between religion and science did so with an innovation that was unique to Islamic science. The aim is not to argue whether religion and science were in agreement, but instead emphasise that Islam worked its way into medieval science through a multitude of channels, resulting in the distinctive yet diverse field of Islamic science.

Nature and nurture: Children's explanations of God's causal abilities

Hannah Lunkenheimer, The University of Texas at Austin
Kelley, K., Nissel, J., & Woolley, J.D.

Children often appeal to causal forces to explain the world around them (Gopnik, 1998).

To what extent is God considered one of those forces? Many children conceive God as a being with intention and knowledge (Barrett, Richert, & Drisenga, 2001; Lane, Wellman, & Evans, 2010; Heiphetz, Lane, Watz, & Young, 2018). Yet while research shows variation in how much adults believe that God intervenes in human life (Degelman & Lynn, 1995), this has not been explored in children. Furthermore, no work has compared beliefs about God's intervention in the natural environment versus in people's lives. To situate our research within the broader context of cognitive development and scientific inquiry, we drew on theories of causal reasoning and scientific thinking. Children's intuitive beliefs about causality and agency have been shown to play a fundamental role in their understanding of the natural world (Gopnik & Meltzoff, 1997; Keil, 1992), and can be influenced by cultural and religious factors (Barrett, 2000). By examining children's beliefs about God's intervention, we sought to contribute to a growing body of research that explores the relationship between science and religion in children's cognitive development. Participants were 150 6-12 year olds and their parents. The majority identified as Christian, reflecting our participant community. Using set of vignettes, we asked children to reflect on what God causes in five domains: achievement (e.g., doing well in school), health and safety (e.g., help sick people get better), psychology (e.g., be happy), social (e.g., make friends), and nature (e.g., changing the seasons). Our results revealed that children conceive of God as possessing a wide range of causal abilities and behaviors, used to affect both people and the environment. Children most often claimed that God intervened in people's health, safety, and psychological processes, and less so regarding achievement and social issues. Furthermore, younger children reported God's intervention in the environment more frequently than did older children, which may reflect growing knowledge about environmental science and their public engagement with STEM. These findings shed light on the complex interplay between children's intuitive beliefs about causality, cultural and religious influences, and scientific knowledge. Overall, our study provides insights into children's beliefs about the natural and social world, and the role that God plays in their understanding of causality and agency. By exploring the intersection of science and religion in

children's cognitive development, we hope to stimulate further research and discussion in this important area of inquiry.

'It Comes from Being American': Culture and Covid-19 in Hasidic Crown Heights

Hannah Peterson, Department of Sociology and Anthropology, Hebrew University of Jerusalem

Drawing on interviews with members and decision makers of the Crown Heights Chabad Hasidic community conducted between December, 2020 and March, 2022, this paper examines the community's response to the COVID-19 pandemic, which has been criticized for failing to adhere to public health guidelines. Contrary to the widely held belief that the Hasidic community's response was driven chiefly by religious opposition to secular scientific discourse, I demonstrate the dual salience of religious authoritarian and secular democratic discourse in community members' pandemic narratives, and show how the use of a secular democratic repertoire, rather than a religious one, enabled actions that bucked the advice of public health officials and stood in contradiction to the rulings of local religious authorities. This paper further examines the role that local authorities played in mediating the shift from compliance with government regulations during the early months of the pandemic to non-compliance beginning in the summer of 2020, arguing that cooperation between religious and medical authorities in Crown Heights (often seen as crucial to ensuring positive outcomes) ultimately had the unexpected consequence of shifting the crisis from the realm of religious culture - with its repertoires of adherence to Rabbinic authority - to that of secular culture, where a more critical attitude towards authority could be adopted.

Secularism, Biology teachers and Evolution Teaching: a comparative analysis of the Brazilian phenomenon

Heslley Machado Silva, State University of Minas Gerais and University Center of Formiga

The secularity of the State is a central issue to Latin America, especially in countries like Brazil, which experience changes in their religious spectrum, with influence in the political and educational field. In this paper, we analyse the views of Biology teachers from Argentina, Brazil, and Uruguay on the separation of politics and religion and the other on the separation of science and religion. We used data from the BIOHEAD-CITIZEN survey and from semi-structured interviews. Results show that Brazilian Biology teachers stand out, supporting that religion can participate in the political and academic sphere. The interviews also confirmed that Brazilian teachers have to deal with religious conflicts, with students and their personal conceptions, when teaching evolutionary theory. This is a worrisome situation, mainly in the current Brazilian context of greater influence of religious leaders in politics, during president Bolsonaro's government. We conclude that Brazilian science education may face stronger attacks in the future, especially the teaching of biological evolution, due to the opposition to the secularity of public education.

Neo-Thomism and Atheist Materialism

Ignacio Silva, Universidad Austral
Ignacio Del Carril, Pontifical Catholic University of Argentina

After the revival of Thomism in the early twentieth century, called for Pope Leo XIII's encyclical *Aeterni Patris* in the late nineteenth century, many Catholic Aquinas scholars devoted themselves to writing long doctrinal treatises and handbooks on Aristotelian Thomistic philosophy and theology. One of the many topics with which these works dealt was monism, which even if not explicitly labelled as, it referred in at least one of its instantiations to atheist materialism. For example, Édouard Hugon, OP (1867-1929), in his 1905 *Cursus Philosophiae Thomisticae*, places the discussion of monism in the first part of the treatise of natural philosophy within his discussion of cosmology. When distinguishing the different kinds of monism, Hugon mentions explicitly refers to

materialism as a kind of monism that builds upon the discoveries of the natural sciences of the time. So, he claimed that "some make no distinction between the living and the non-living [and] some teach that all things, even living things, proceed from one primitive state, which, by evolving, passed from an inorganic state to an organic and animate one." (p. 9). For Hugon, this position was not only refuted by philosophical argumentation but also by engaging the natural sciences. Thus, he claimed that the "monism that puts matter to become everything and life to appear from matter is opposed... to certain facts of biology, which prove, as Pasteur testifies, that spontaneous generation is not possible". (p. 12). This paper will, thus, present the way in which some Neo-Thomists like Hugon engaged with ideas of atheism in the form of philosophical discussions of materialist monism. The key point of this paper will be to show how these authors directly engaged with their understanding of the natural sciences of their time to refute atheist materialism.

Haldeman-Julius and his "Little Blue Books" series

James Ungureanu, Stony Brook School, NY

In the 1920s, atheist and socialist newspaper publisher Emanuel Haldeman-Julius (1889-1951) began printing his cheap, paper-covered "Little Blue Books" series. He sold an estimated 500 million copies of these pocket-sized books to working-class and middle-class Americans. As "publisher for the masses," Haldeman-Julius intended the Little Blue Books to be a "University in Print," and included a great mixture of classical literature, novels, how-to manuals, and essays on sexuality, politics, philosophy, history, religion, and science. Haldeman-Julius also played a large, albeit almost forgotten, role in the life and literary careers of Will Durant, Bertrand Russell, and Clarence Darrow. Perhaps most important, ex-Catholic monk Joseph McCabe published numerous titles in Haldeman-Julius's series. One of the most successful books in the series was, interestingly enough, his *The Conflict Between Science and Religion* (1927). In this work, McCabe essentially repeated narratives of John W. Draper and Andrew D. White, but argued the liberal Protestant attempt to reconcile "science and religion" was "bunk." In this paper, I argue that McCabe, Haldeman-Julius, and the "Little Blue Books" played a central role in spreading "scientific materialism" and the "conflict thesis" to American readers in the first half of the 20th century. Rather than Draper and White, the true origins of the "conflict" between science and religion can be found in these "Little Blue Books."

Teaching science through atheism; promoting atheism through science. Reforming pedagogy in early twentieth century Spanish anarchism.

Jaume Navarro, University of the Basque Country

At the 2022 meeting of the INSBS, I presented a programmatic paper on the importance to study Spanish anarchism at the turn of the 20th century as a key element to understand the topoi of science-and-religion that have permeated Spanish to this date. In this paper I will present an analysis of the writings of the pedagogue and martyr of anarchism, the Catalan Francesc Ferrer Guàrdia, exploring the way science, atheism and anarchism were presented as substantially intertwined. In a climate of deep political tensions, with anarchists, socialists, conservatives, liberals, etc. disputing the best way to construct a new, modern, nation, "science" was used as an ideological rhetorical tool by most, if not all, actors. "Atheism" (and not simply agnosticism or anti-clericalism) was, probably for the first time, a stance publicly taken mostly by anarchists. But, what did it mean to be an "atheist" and what relationship that had with the teaching of modern science is something that remains unexplored.

How to connect studies of science and belief in society to "human flourishing" ideas?

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As we have been arguing in our studies in Brazil, the reflection about the interplay between science and belief in society (SBS) would benefit from being placed into a more normative conceptual framework explicitly oriented toward the societal cultivation of human flourishing. This strategic move would rightly emphasize that fostering a healthy relationship between the scientific and the pistic dimensions of the social realm is directly conducive to recovery of the classic notions of what it means to be human and of the collective virtue formation processes needed to promote humanness in societies. Thus, this paper aims to provide an overview of the main topics raised in the current “human flourishing” debates to identify possible injunctions for the SBS community to connect their accounts into these lively discussions.

To that end, we statistically analyze the description of each of the 137 ideas collected in the Ideas Database on Human Flourishing launched in 2020 by Templeton World Charity Foundation (TWCF). With contributions from more than 500 research teams from over 350 institutions across the globe, the database constitutes a valuable resource for obtaining state-of-the-art topics – both theoretical and practical – about human flourishing. In our analyses, we identify “basic”, “motor”, “niche”, and “emerging/declining” themes. Moreover, we characterize word clusters in terms of their associations to the categories of “goals”, “opportunities”, “roadblocks”, or “breakthroughs” needed to further develop the field. Finally, we compare these results to the ones obtained from an up-to-date bibliometric analysis of all the bibliographic items extracted from the Web of Science database that contain “human* flourish*” in their topic (title, abstract, or keywords). In light of the results, we initiate a critical reflection on the affordances presented by the language that has been used in that field, and how SBS narratives could connect to that.

Reading Science and the Practice of Religion in 1830s Britain: The Case of the Bridgewater Treatises

Jonathan Topham, University of Leeds

When Darwin returned from the Beagle voyage in 1836, the most talked-about scientific works of the age belonged to a series of eight books called the Bridgewater Treatises. Funded by a bequest of the earl of Bridgewater, they were written by leading scientific men appointed by the President of the Royal Society to explore “the Power, Goodness, and Wisdom of God as manifested in the Creation.” Securing public attention beyond all expectations, the series offered to Darwin’s generation a range of approaches to one of the great questions of the age: how the newly emerging disciplinary sciences were to be incorporated into Britain’s overwhelmingly Christian culture.

For many of those who read the Bridgewaters, the critical concern was with the relevance of the sciences to the everyday practice of religion. This paper explores how religions readers went about incorporating the new books into their daily lives in ways that they considered would bear spiritual fruit. It starts by focusing on private religious devotion, exploring how readers of the Bridgewaters incorporated lessons learned from spiritual guidebooks concerning the appropriate ways of using reading in meditation and self-examination, in some cases expressing their responses in poetic form. The paper then turns to another kind of spiritual guidebook, intended for those leading family prayers, showing how here, also, reading the Bridgewaters became incorporated in acts of religious devotion. The second half of the paper examines family relationships further, revealing how the Bridgewaters featured in the key religious contexts of marriage and parenting. For many couples, the religious framing of the sciences offered by the Bridgewaters was invaluable in establishing character and managing intimacy between the sexes. Likewise, many parents found them useful in ensuring that scientific education would not detract from the religious training that they considered to be their primary objective.

The Jesuit and the Serpent: An exploration of Jesuits’ studies of snakes in 19th and 20th century India

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The idea of the snake as Satanic and evil has pervaded the imagination of lay people for centuries, particularly among Christians. Contrary to public perception, several Christian missionaries appear to have taken a more charitable view towards snakes – even helping to breed and study these creatures. This paper examines the scientific writings of Jesuit missionaries in nineteenth and twentieth century India, to explore their observations on snakes and other reptiles. In particular, this paper analyses the explorations of Fr Friedrich Dreckmann SJ (1840–1917), Fr Charles Leigh SJ (1880–1969) and other Jesuits, as gleaned from their writings in the *Journal of the Bombay Natural History Society* and a few other publications. A preliminary analysis of their writings suggests that besides scientific interest in the biology of snakes and other reptiles, these Jesuits also appear to have had a soft corner for these creatures. Exploring this relationship between Jesuits and snakes could help re-think popular representations of women and men of science and of religion in society. Considering that these particular Jesuits were generally concerned about the conservation of snakes, an investigation into Jesuit missionaries' approach to studying and caring for snakes could also help re-orient conservation activities, especially of creatures like snakes which are usually not considered "charismatic" or ranked high (like tigers) in the conservation priorities of wildlife authorities. Further, this paper introduces the work of the afore mentioned Jesuits for the first time in scholarly literature. It hopes to throw further light on the scientific explorations of lesser-known Jesuits as a contribution towards the scientific study of religion and science in society. This paper is part of the author's ongoing research work on Jesuit men of science in India.

Nineteenth-century Mexican nationalism, between liberalism and conservatism: towards a historiographical reinterpretation of the relationships between science and religion

Juan Manuel Rodriguez Caso, National Autonomous University of Mexico (UNAM)

Nationalism has been a constant in Mexican history. From the search for identity during and after the colonial period, the nineteenth century was the scene of a dispute that continues today: liberals versus conservatives. The Reform War (1857–1860) served as an excuse to lay the foundations for an ideological battle between the state and the Catholic Church, in which science and religion played an important role. On the one hand, a way of understanding nationalism linked to religion, especially the figure of the Virgin of Guadalupe, and on the other, a "modern" proposal that associated a new national identity with secularism. This dispute still serves to justify a polarised view of contemporary Mexican society. However, an in-depth analysis of Mexican history shows that such polarisation results from a narrative, not historical facts. This article seeks to establish an alternative view of the relationship between nationalism, science, and religion in nineteenth-century Mexico, to show that categories such as liberal and conservative do not help describe the relationships between these concepts. In addition, the aim is to take up the importance of historical discourse in contemporary discussions as a narrative basis that seeks to legitimise political or ideological positions.

J. A. Thomson's science and religion in 1920s-1930s' Chinese context: a book-historical approach

Jun Xu, Tsinghua University

This paper gives a survey that how J. A. Thomson's two books related to science and religion were absorbed and spread by the Chinese intellectuals in the early 20th century. Focused on the author, translators, publishers and readers, we find one of Thomson's popular science works, *Introduction to Science* was introduced to the Chinese intellectuals through scientific publishing by two different translators and publishers. One of the translator Deng Junwu and his coteries in Xinken bookstore shared the materialism from the Marxism-Leninism, and they thought Thomson was a conservative scientist and his reconciliation of science and religion would not succeed. However, another translator Yan Hongyao believed that science and religion could be complementary for life if we took the view of Thomson into consideration. Thomson's second Chinese translation about science and religion was based on his lectures to the students from Union Theological Seminary. This book was published by the Chinese Christian, and was mainly circulated in church bookstores and libraries, so most of the readers are Chinese Christian intellectuals. Like the situation in Britain that Thomson was welcomed by the liberal theologians, this book was also quoted by

the Chinese Christian scholars, like Xie Fuya and Kui Deyi to promote the localization of Christian in China. Combining this book with their own research about philosophy of religion and psychology of religion, they responded to the popular thesis "science and religion were conflicted" at that time with the proof that science could make a contribution to religion. By combining the scientific publishing and religious publishing, this paper argued that the book-historical approach has a special meaning for clarifying how "Kexue"(科学) and "Zongjiao"(宗教) appeared as translation concepts in the history of modern China from a cross cultural perspective, thus helping us to think deeply about how the issues in science and religion became an ideological debate and academic subject within both local and global context.

Personality cults as a form of new religion in post-Soviet countries

Katarzyna Jarosz, University of Logistics in Wrocław (Poland)

My research is focused on the mechanisms, strategies and techniques of creating, keeping and forgetting cults of personality in the post-Soviet countries, as one of the key elements of shaping or re-establishing national identity, as seen through the lens of historical, archaeological, scientific and ethnographic museums. Cults of personality have several characteristics typical of a religious cult, and can reach the dimension of a religion. They are authorised as they work to establish their cultural identities, particularly after long periods of colonisation. One of the things that can be done in new countries with no history is to deify the leader. The personages thus deified may be current or former leaders, historical or mythical heroes.

In this paper I shall explore the interface between nation, science, atheism and personality cults in post-Soviet museums. The history told in museums often incorporates selected episodes into a national narrative. Nation builders and policy makers, along with academics have used different disciplines; anthropology, history, ethnography, toponomastics, literary studies, biology and genetics, to revise history to match the official ideology, of selective narrative, fitting better to official ideology.

The research shows that the museums may play an instrumental role in forging cults of personality. Particularly:

- Personality cults support the idea of ethnic nationalism, which focuses mainly on a national identity shaped by the concepts of common ancestry or common race.
- The rediscovery of national heroes has deep symbolic meaning for the contemporary power. The deified person is a symbolic reflection of a historical or mythical hero.
- Underlining the ethnic lineage of the country, with the leader being the essence and the embodiment of a nation, is a key element of the process of building a cult of personality.
- Scientific disciplines and scientific milieu have significant influence on the above-listed process.

Integrating Spirituality in Health Science Education: An Empirical Study of University Students

Kevin Muriithi, St. Paul's University

Spirituality and science continue to be contested disciplines within public life and university education. Arguments for strong incompatibility between the two are common, although usually grounded within philosophical and theological approaches. This research assumes that health sciences education follows the incompatibility model and seeks to interrogate this approach through an empirical study of health sciences students at St. Paul's University, Kenya. The study acknowledges the way in which the COVID pandemic has foregrounded mental health issues. Engaging this public health phenomenon, this study will utilize a mixed-methods approach to unveil the interaction of spirituality with science, and in particular, health science education. The implications of the study, conducted by a theologian and health scientist, will reconsider how science education is done and how higher education must engage in inter- and trans-disciplinary approaches for holistic education. Secondly, this research will show why spirituality must be integrated into teacher training. Lastly, this research builds up on the body of literature in the public perception between faith and science within the global context from a global south perspective.

Botanical Knowledge in British Colonial Québec (1763-1867)

Kimberly Glassman, Queen Mary University of London

My PhD project investigates the female transatlantic information networks used by William Jackson Hooker (1785-1865), first Director of the Royal Botanic Gardens, Kew. Hooker worked with a group of Canadian women – Harriet Sheppard (1786-1858), Anne Mary Perceval (1790-1876), and Christian Ramsay, Countess of Dalhousie (1786-1839) – to publish his *Flora Boreali-Americana* (1829-1840). As part of my research, I question the language and religious politics present in Québec scientific societies during the active years of collecting whilst part of British North America (1837-1867).

The proposed paper investigates the role religion played in gaining access and contributing to science in the early nineteenth-century Quebec. While it is uncertain whether Dalhousie spoke or understood French, Perceval was an avid linguist, and Sheppard and her husband, William, were known supporters of working-class French Canadians. From 1827 to 1829 the Sheppards were leading members of the short-lived 'Société pour l'Encouragement des Arts et Sciences', whose members were mostly French Canadian Catholics. In 1829, the society merged with the more British loyalist aligned 'Literary and Historical Society of Québec' that, for the first five years since its founding in 1824, had initially prohibited French Canadians and women from joining and were more politically leaning towards English Protestantism.

In my presentation, I would like to prompt a discussion on how language and religion shaped botanical knowledge in local collectors and regional societies. As Britain's imperial agenda strengthened its connection to botanical expeditions and acquisitions in the lead up to the Canadian Confederation in 1867, I question how French Canadians in Lower Canada contributed to botanical discourse. I further investigate how female botanists in Québec managed to navigate the British imperial agenda and draw from French Canadian knowledge in the study of Québec botany based on their English, Scottish, or Canadian heritage.

Science as a battleground between Atheism, Greek Communism and Orthodox Christianity: The Christian Union of Scientists and the journal Rays in Greece (1940-1970)

Kostas Tampakis, National Hellenic Foundation

When Richard Dawkins was a small child and Christopher Hitchens yet unborn, in 1946, to be an atheist had a very different meaning in Greece than it is commonly assumed today. In Greece, the Communist Party had a strong presence. As a result, the end of the Second World War found Greece in the midst of a bloody Civil War between Communists and Western Allies. Atheism was associated with communist beliefs, by both sides of the ideological fence. The journal "Rays" was founded in 1938, with the express aim of "providing moral and ethical guidance to the modern man". Being published by the Christian Union of Scientists, the journal "Rays" was in reality one of the many ventures of the para-ecclesiastical religious brotherhood "Ζωή" ("Life"), with the ultimate goal of battling materialism, communism and all other modern ideas that were deemed harmful for the national project. Both the journal and its attending organizations played a prominent role in the intellectual and ideological battle that accompanied the Greek Civil War of 1946-1949, and continued to be very influential until the Junta of 1967. The article will explore, for the first time, the narratives, themes and participants in the journal «Rays», and describe the way science and Christian Orthodoxy were used as ammunition in the political and social battles of the era.

Making Science Kosher

Lea Taragin-Zeller, Cultural Studies and Federmann School of Public Policy, Hebrew University of Jerusalem

This paper examines how Haredi Jews in Israel tailor science by themselves, and for themselves. Whereas much scholarship on religion and science focuses on perceived theological 'tensions' between science and religion, this project develops a bottom-up understanding of the ways religion and science are negotiated

and legitimized in everyday life. As a case study, we examine the pioneering publication of Niflaot (Hebrew: 'Wonders of the World'), the first 'kosher' Haredi National Geographic magazine, launched in March 2021. Even though Haredi Jews have tended to have an ambivalent stance towards science, COVID-19 has introduced a renewed interest and growing acknowledgement of the importance of science education. To study this watershed moment in Haredi-science relationality, we combine content analysis and interviews with Niflaot's editorial staff, public relations team and magazine consumers, to capture the ways scientific knowledge is tailored for Haredi sensibilities. While scholars have highlighted how science communication reifies forms of structural inequality, especially race and gender, we focus on the challenges science communication pose for religious minorities. This paper will demonstrate the multiple process of translations - from English to Hebrew to Haredi - showcasing the processes and prices of tailoring science for religious publics.

Religious beliefs and their effects on the teaching practice of Brazilian teachers

Lucas Mascarenhas de Miranda, Federal University of Juiz de Fora

The hypothesis of an eternal conflict between science and religion (SR) is associated with many historical misconceptions and questionable interpretations of historical events. In the process of transposing academic knowledge into school knowledge, the teacher plays a central role and can exert an important influence on student learning and worldview.

This research investigated the beliefs, historical misconceptions and teaching practices of 94 Brazilian science teachers (58.5% men). Data were collected through an online survey with 25 questions.

We found that historical myths about SR still persist among religious and non-religious teachers. The most frequent historical myth was that religion hindered the development of science, followed by the belief that Galileo Galilei was imprisoned and tortured by the Church. Only 6.4% of teachers demonstrated knowledge about the most recent studies on SR relationship.

Among the religious teachers, 49% self-declared creationists, and five of these teachers (19.2%) said they didn't believe in the evolution of species. The other creationist teachers said they were able to reconcile creationism and evolutionism. Among non-religious teachers, 70.7% believe it's impossible to reconcile evolutionism and creationism, and six of these teachers declare that they argue against creationism with their students.

Between all teachers, 11.7% believe that the SR relationship and creationism should be addressed by teachers. Another 46.8% think that it shouldn't. The remaining 41.5% believe it can be addressed if students request it.

While other school knowledge is taught more homogeneously, the teach of the historical relationship between SR and evolutionism seems to depend heavily on teachers' worldview and beliefs. In addition, there's still a great lack of knowledge about the historical research on SR, which has been showing that this conflict lacks evidence and SR can dialogue and integrate. We conclude that this topic needs more attention from researchers and interdisciplinary solutions.

Fostering higher education STEM environments inclusive of belief diversity: Findings from the STEM and Belief in UK and USA Higher Education project

Lucy Peacock, Centre for Trust, Peace and Social Relations, Coventry University

While there is an abundance of research into religion, interfaith relations, and discrimination in higher education, the question of how to foster an inclusive STEM (science, technology, engineering or mathematics) university experience across belief diversity has been neglected. US research reveals a significant relationship between university study of STEM disciplines and the development of students' religious or spiritual characteristics and interfaith competencies. Yet, in the UK, as university STEM applications hit a record high, little research has considered belief diversity (defined as the diversity of religious, spiritual or non-religious traditions, positions or worldviews, including unbelief) in STEM, despite disparities in the number of STEM student applicants from religious backgrounds.

To promote meaningful university STEM opportunities for across belief perspectives, we must better understand how to foster STEM environments inclusive of belief diversity. The 2022-23 mixed methods project, STEM and Belief in UK and USA higher education, addressed this gap. Drawing upon survey data from more than 9,000 UK and US university students, as well as interview data from 20 UK STEM university students across a diverse range of belief perspectives, the paper will present some of the project's key findings through three questions: 1) How are UK STEM students' attitudes to belief development and diversity developed during university? 2) How do UK students' attitudes compare to US STEM students? and 3) How are students' attitudes influenced by personal demographics including belief, gender, ethnicity and STEM sub-field?

By interrogating the intersectionality between attitudes to belief diversity, STEM environments and identity characteristics, the project is the first of its kind to explore how students navigate their campus climates through the lens of this intersection across two western higher education contexts.

"When the patients says no": a qualitative study about the role of spirituality and belief in cancer patients' refusing treatment

Mar Griera, Universitat Autònoma of Barcelona

There is little empirical research addressing the role of spirituality in the production and reproduction of discourses and practices of rejection of biomedical treatments, especially in cases of cancer treatment. We also know little about how health professionals perceive and handle cases of rejection and hesitancy related with spirituality and beliefs. To fill this gap, we have mapped and interviewed health professionals working in cancer units in hospitals, and also patients' associations and organisations of health professionals. The research has revealed that the number of cancer patients completely rejecting treatment is very small but there is an increasing number of them that question medical authority and partially refuse biomedical treatment. The paper provides preliminary findings about how oncologists, onco-psychologists and nurses perceive, explain, and understand practices of total or partial rejection: first, there is a consensus on the increasingly relevance of integrative medicine and spiritual practices (e.g. mindfulness, reiki) in cancer treatment and their ambiguous role in generating processes of hesitancy and rejection of biomedical treatments; second, there is a growing number of therapeutic techniques and self-help resources on 'healthy lifestyles' addressed to cancer patients, and related with the holistic universe, that gain ground among cancer patients, and that not always is perceived as adequate by health professionals ; and, third, demographic variables seem to play a role since most of the interviewees coincide in identifying gender and cultural capital as a relevant factor to explain attitudes of rejection and hesitancy. Interviewees agree on the fact that the profile of patients looking for alternatives to biomedical treatments, and rejecting/abandoning treatment, are highly educated women. This challenges possible assumptions that rejection of cancer treatments respond to ignorance or lack of information, and also shows the complexity of processes of deciding about biomedical treatments and processes of trust building.

Reframing science and religion conversations through alternative epistemologies: an exploration

Marcelo Cabral, Unicamp

This paper closes the panel offering a more tentative discussion into the epistemologies that may better frame the analyses and comparison between science and religion, particularly of people's various attitudes before them. I argue that two alternative epistemologies – virtue epistemology and Dru Johnson's ritualistic-Hebraic epistemology – are better suited to frame science and religion interaction. Several authors have argued that enclosing science and religion as two competing sets of statements is a flawed way to conceive them. John Evans (2018) argues that the core of the alleged conflict in the US is due not as much as different knowledge-claims as it is to different set of values that religious and scientific communities cherish. Peter Harrison (2015; 2022) defends that analytic epistemology misrepresents the central features of both religion and science, conceiving them as propositional attitudes instead of complex and contingent social practices. It seems, thus, that the two major problems with analytic

epistemology are that (1) it frames both science and religion as epistemically settled categories, which (2) entails that their evaluation must be done through establishing, interpreting, and judging the harmony or contradiction among their propositional claims. To handle such challenge, I present two alternative epistemologies: virtue epistemology (e.g. Zagzebski 1996; Baehr 2011) and Dru Johnson's Hebraic epistemology (2016; 2017). Virtue epistemology is centered on notions of intellectual character and intellectual dispositions; Dru Johnson's approach provides a practice-oriented epistemology. Both, I argue, provide a superior epistemic approach to frame people's attitudes toward science and religion, attitudes that are embodied rather than merely propositional. My goals are twofold: (1) to offer some rationale to the framework employed in the empirical research our team conducted in Brazil; and (2) to encourage other works in the broad field of science and religion to employ these promising epistemologies.

Perspectives and articulations on science & beliefs in reproductive medicine: the ART experts' experiences in Argentina

María Cecilia Johnson, CIECS- CONICET Universidad Nacional de Córdoba

The paper explores the relationship between science and religion in Argentina from the Assisted Reproduction Techniques (ARTs) field. To this end, we explore the perspectives, practices, and processes of articulation of reproductive medicine and religion in ART experts of Argentina.

Following Franklin & Inhorn, Argentina's "repro-national history" -cultural and religious boundaries, public controversies, and political and legal decisions- has shaped the relations between science and religion. From a Global South perspective, the paper is concerned with how religion and reproductive medicine articulate the views and practices of ART experts (ART practitioners, fertility specialists, bioethicists, psychiatrists, psychologists, and social workers).

Based on a qualitative methodology that combines interviews, documentary analysis, social network analysis, and observation, here are presented the progress of the project Sciences & Beliefs in reproductive medicine: trajectories, perspectives and articulations between experts and users of ART in the biomedical field in Argentina, funded by The International Scientific Network for the Study of Science and Belief in Society- Templeton Foundation.

The data reveal religious experts' positions, trajectories, strategies, and tensions who interpret, negotiate, and propose specific articulations between science and beliefs in Argentina's reproductive medicine field. Following previous qualitative studies on ART that have shown how religion can potentiate the reproductive practices of users and practitioners, health professionals' practices reveal relationships between biomedicine and religion are not limited to conflict. Moreover, religion also constitutes a resource of means and support and sometimes another layer of significance to the expert practice and presentation.

From an intersectional perspective, contemplating the diversity of beliefs in Argentina intertwined with other positions (class, race, gender) shows how experts' identities are relevant to reproductive medicine provision in Argentina.

Theory of evolution and religion: are there implications for the teaching practices of Biology instructors?

Maria da Conceição Vieira de Almeida Menezes, University of the State of Rio Grande do Norte

Considered the unifying, central axis of biology, the theory of biological evolution explains the origin and diversity of organisms. As such, there is no way to study and understand Biology without knowledge and comprehension of biological evolution. However, the teaching of biological evolution in basic education has not been satisfactory, in the sense that students do not achieve significant learning about the theme. It is believed that the religious convictions of teachers can contribute to make the instruction in the theory of evolution more difficult, and, as such, it is relevant to know to what point matters related to the religious beliefs of teachers interfere in their pedagogical practices when explaining the theme in the classroom. The present study aims to investigate, in Biology teachers that are undergoing the Professional Master's

Degree in Biology Teaching program (PROFBIO/UERN), the relation between their religion and the teaching of the theory of evolution to secondary education students. This qualitative research used data from questionnaires applied to 80 teachers who are, or ever were, in the PROFBIO program. The methodology used for examining the data is content analysis (Bardin, 2001). Preliminary results show that teachers exhibit many difficulties in teaching evolutionary biology, and the reasons for that range from not properly grasping the content and the little time allotted to it in the Biology syllabus of basic education, to those linked to their religious convictions, that have direct impact in the didactic transposition of the subject in class. It is necessary to develop a more vigorous formation of Biology teachers, in order to make possible a significant improvement in the scientific knowledge of evolutionary theory and in the critical thinking ability of teachers.

Imagining, not speculating? The religious imaginary of natural scientists and the secularization debate

Maria Rogińska, Pedagogical University of Cracow, Poland

The debate about the secularizing influence of science has historically focused on two levels: the epistemological one that investigates possible conflict of science and religion, and the sociological one that inscribes scientific “disenchantment” into the processes of modernization. However, the empirical study of individual worldviews at the intersection of science and religion introduces some problems into these approaches. On the first level, the universal need for a consistent individual worldview turns out to be debatable, so real epistemological contradictions may have little impact on personal (dis)belief. On the second level, religiosity turns out to have a plastic, multidimensional nature. Its traditional indicators (such as religious identity or practices), which predictably respond to social changes do not always reflect the less visible, privatized, religious dimensions. In this paper, I propose to consider a third level of analysis: the religious imaginary (understood as images, and ideas expressed by images, related to the fundamental structures of the universe and the divine). Based on 66 in-depth interviews with scientists from Lithuania and Ukraine, in which they reflect on their own ways of operating images against the backdrop of the Soviet and post-Soviet periods, I show that: a) even if people are not interested in rigorously constructed metaphysical systems, they (almost) always imagine; b) the imaginary shows a separate response to epistemological and social changes, which is different from the traditional indicators. Finding a toolkit to grasp these dynamics can offer a significant contribution to the secularization debate.

Argentinian newspapers representation of the relationship between Science and Religion as influenced by current affairs

Maria Sol Barbera, Universidad Austral

In Argentina, the relationship between Science and Religion is not a subject of public interest. At first sight, the press seems to avoid (or have no interest in) reporting on issues that may establish a link between the mentioned topics. In the relatively rare cases in which these subjects are mentioned in articles, most newspapers appear to adopt an Independence approach. This stance seemingly changes when a current affair, a topic or event widely discussed across society and in the media, is somehow related to both Science and Religion.

A content analysis is being performed on two sets of news, taken from the five most consumed digital newspapers in Argentina during 2022. The first set contains all articles related to Science and Religion published in the selected newspapers between March and July of 2018. During these five months, a bill to decriminalize abortion was being discussed in the Argentinian congress. The topic received much attention from society and the media. Scientists and scientific institutions, as well as religious representatives and institutions, were involved in the public and parliamentary debates. The second set of articles follows the same inclusion criteria for publications made between March and July of 2022, a year with no situations of particular interest or relevance that may cause an increase in publications like the one seen in 2018.

At first glance, the amount of articles and the greater variety of genres seem to indicate a bigger interest in reporting on the issue during the period of the first set. Can current affairs spark more newspaper

publications that openly discuss Science and Religion and some with more controversial approaches to the subject?

When does death begin?: Understanding of death among children and adults in Tana Toraja, Indonesia

Melanie Nyhof, Carthage College

Over the course of middle childhood, children across cultures come to understand that biological death involves the cessation of functioning. However, during these years, children in many cultural and religious groups receive testimony concerning life after death. Research on children's afterlife beliefs suggests that as older children come to understand that death results in the cessation of bodily functions, other functions, such as emotional, desire, and psychological functions continue. Children in Tana Toraja, Indonesia, participate in a culture where the recently deceased are referred to as "sick," and not dead until after the funeral has occurred and the body has been placed in the tomb. In many cases, the deceased in Toraja will remain in the family's house for an extended period until the funeral is held. In this paper, we will present the results of a study examining what Torajan children and adults think happens after death. Children ages 7-12 and adults in Tana Toraja were presented with three vignettes in which a character has died, with each vignette presenting a different context (in the hospital right after death, in the home before the funeral, and in the tomb after the funeral). After each vignette, participants were asked about the functionality of the character's body, mind, and spirit after death and asked why or why not. After the three vignettes, participants were asked open-ended questions about what they think happens to the body, mind, and spirit after death. Results will be discussed in terms of how the responses of Torajan children and adults compare to the findings of similar studies in other cultures.

From Condemnation to Prophylaxis – Christianity and the Evangelical Lutheran Church in the National Suicide Prevention Project in Finland

Mikko Myllykangas, University of Oulu

In the early twenty-first century, Finland is often regarded as a model nation of suicide prevention. This perception is greatly influenced by the National Suicide Prevention Project (NSPP) that was carried out in Finland in 1986-1996 and the subsequent drop in the suicide rates. The NSPP brought together researchers and other experts from the fields of psychiatry, psychiatric epidemiology, psychology, social work, and healthcare as well as of theology, church sociology, and personnel from Evangelical Lutheran Church of Finland. Thus, the NSPP and the Finnish suicide prevention discourse in the 1980s can be seen as a coming-together of not only a variety of academic disciplines but what is typically regarded as different or even opposing worldviews. What makes this mixture of disciplines and professions noteworthy is that the historians of suicide have repeatedly pointed out how suicide transformed from a spiritual offence into a medical and psychiatric object – "From Sin to Insanity" as Jeffrey R. Watt wrote in 2004 – over the course of the eighteenth and the nineteenth century. Yet, it appears that religious worldviews and theological viewpoints were not categorically excluded from the discourse of suicide prevention that had become to be dominated by psychiatry and other scientific approaches. In this paper I discuss the co-existence of scientific and religious worldviews as well as the interactions between disciplines such as psychiatry and theology in the first nation-wide suicide prevention project in the world, the Finnish NSPP.

"Science and religion "around the world": exploring perspectives and potentials from African material culture in museum collections

Nathan Bossoh, Science Museum London

Over the last few decades the history of science discipline has shifted – with noticeable progress – from Western-focused narratives towards more globalized histories of science. In comparison, however, the

subdiscipline 'history of science and religion' has struggled to push beyond Western-centric boundaries which have relied heavily on Christianity. In their 2011 book 'Science and Religion Around the World' John Brooke and Ronald Numbers attempted to map out a viable approach to globalizing the history of science and religion, yet the work highlighted more issues than it solved. Part of the reason that history of science and religion has struggled to go "around the world" is because the very terms 'science' and 'religion' are contingent, regional, and have not historically functioned beyond the West prior to the nineteenth century. Another reason, however, which I suggest has contributed to this chronic challenge, is due to methodology. Whilst historians have paid much attention to the various intellectual, social and cultural contexts of science and religion, they have paid less attention to material cultural contexts. In this talk therefore, utilizing the results from my research into the 'Wellcome African medical collections' held by the Science Museum in London, I explore a currently underutilized, yet potentially fruitful, mode of investigation. By incorporating indigenous narratives embedded in colonial museum collections alongside narratives discovered through the more established mode of archival research, I argue that material histories can enrich current historical scholarship. In bringing the history of science and religion more firmly into contact with museum studies, I consider the goal of going "around the world" from a new and promising perspective.

Ideological Conflict: Antonio Gramsci on Science, Religion and Italian History

Neil Tarrant, University of Leeds

Antonio Gramsci's writings on the individual fields of science and of religion have recently attracted scholars' attention, although his work on the specific field of science and religion remains relatively understudied. He did not produce a sustained body of work on this subject, but his observations on the relations between these two fields are scattered through his prison notebooks. In this paper, I consider his understanding of science and religion as forms of ideology and how he developed and used these concepts. I will focus on his reflections on the relations of science and religion in the early modern period. To do this I situate his understanding of science in his interpretation of the development of Italian history, notably his explanation for what he regarded as the failure of the nineteenth-century Risorgimento. I suggest that his concept of the relations between science and Catholicism in early modern Italy was shaped by his reaction to two alternative philosophical currents that offered alternative means to interpret Italy's history and map out possible alternatives for the nation's future. On the one hand he sought to critique the liberal idealist philosophical interpretation of Italian history offered by Benedetto Croce, on the other he sought to counter the materialist interpretation of history of science developed by Nikolai Bukharin best exemplified by the work *Science at the Crossroads* (1931). These influences led him to develop the belief that while Protestantism was a socially progressive force that offered a conducive environment for the development of modern science, Counter-Reformation era Catholicism suppressed the practice of science in the Italian peninsula.

With no inherent conflict: using the scientific to tame the theistic

Nuala Caomhánach, New York University/American Museum of Natural History

There is a small plaque by the exit of the Spitzer Hall of Human Origins at the American Museum of Natural History stating "[T]he theory of evolution by natural selection is the only scientific explanation for the spectacular diversity of life on earth...many today, including prominent religious leaders and scientists, view the search for understanding as one that both embraces scientific explorations into the material world and a spiritual search for the meaning of human existence, with no inherent conflict between the two." Providing context to this ecumenical ambiguity is an adjacent video presentation with three biologists sharing their theistic visions of nature, on continuous loop. Visitors, from across the globe, exit the hall with mixed feelings as they ponder on this abrupt intrusion of religious ideology. This talk uses the Spitzer Hall as a site of analysis to bring the calibrated language of the exhibition into dialogue with the religious overtones encountered within the scientific narrative presented. Guides and labels for the hall tend to fall back on the discourse of "theistic consensus"—by situating religion as an evolutionary moment

in human progress—to frame the collection for the public creating a unifying secular discourse that embeds religion. I argue that this sociobiological turn naturalizes religious tendencies of the human species as a behavioural artifact. By analyzing the hall, I will discuss novel methodologies of using the science behind the exhibition to show how the tension between religion and science is tamed by intellectual reverse engineering. By theorizing religion and science as having an unruly symbiotic relationship, I will explore how evolutionary narratives woven together for public audiences bolster claims of consensus between western scientific and western religion(s) producing a homogenizing and universalizing force over alternative cosmologies.

Confessional Race: Blood Purity, Religion, and the Making of Human Rank in the Early Modern Period

Patrícia Martins Marcos, UC Chancellor's Postdoctoral Fellow – Rising to the Challenge, Bunche Center for African American Studies, Department of History, UCLA

For decades, while debates about race took off in English studies, scholars of race in Iberian-Atlantic contexts rather insisted on qualifying early *raça/raza* as “proto-racism.” Such resistance to treating early modern Iberian *raça/raza* as akin to “racism” expressed a rejection of transhistorical, universal racial formations. My analytic, confessional race emerges against this backdrop, rejecting the prefix “proto.” Rather, confessional race recovers how before the “enlightened” naturalization of the human into a species, religion constituted the main language of authority about the natural world. To Iberian worldviews, *raça/raza* was something one either had or did not have at all. *Raça/raza*, thus, was primarily a judgement based on one's adherence to Catholicism (i.e., white and of pure blood), or one's positioning as an “enemy of the faith” (i.e., someone “with race, from an infectious nation”). Confessional race identifies how early modern race was made through religious difference via the notion of “blood purity.” My analysis hinges on blood as the key site of concern for the three languages of authority in the early modern world: religion, jurisprudence, and medicine. I demonstrate how, before modern, biocentric heredity, early modern blood represented the conduit for the material reproduction of *raça*. Experts speculated about its qualities, their impact on lineages, the capacity to degenerate the body politic, and the regulation of reproduction. Decentering the Linnaean moment as the wellspring of “scientific race,” this paper discusses how early modern adjudications of *raça/raza* at the Inquisition already considered problems of nature, matter, and collective health.

New Religious Beliefs as Mediators of Science and Religion: Cognitive Approaches to Techno-Animism in Japan and Taiwan

Paul Robertson, University of New Hampshire

This project analyses how novel religious beliefs in the global East mediate between scientific thinking and traditional religion. Instead of a conflict between science and religion, religious beliefs function as dynamic sites of integration between technology and the sacred by reproducing and transforming notions of religion in scientific contexts. This negotiation reflects predictions from the cognitive science of religion (CSR), a recent paradigm of study that has not been applied to this area or data and which can explain why and how this negotiation functions.

I compare two global sites, Japan and Taiwan. Both contain so-called ‘techno-animism’, which manifests traditional animist views of religion in high technology urban centres. The Kanda Myōjin, an important Shinto shrine in Tokyo, offers traditional religious blessings to protect digital technology such as computers and cell phones. The Taiwanese Lantern Festival, meanwhile, combines ancient folk beliefs with modern technological showmanship. In both cases, traditional beliefs in gods thrive in highly scientific contexts through the novel re-imagining of religious beliefs as emplaced within modern technology.

Anthropologists have noted these phenomena descriptively, but no scholarly work has explained why techno-animism arises and takes these particular forms. This project therefore offers the distinct contribution of explaining this data via the cognitive science of religion (CSR). CSR has demonstrated how evolutionarily-rooted brain processes lead to shared, cross-cultural strategies in new religious thinking

that mediate between competing modes of thought. Such strategies maintain beliefs in socially strategic, super-natural agents, which are thought to not only exist but also take interest in daily human life. Novel religious beliefs are thus able to apply traditional notions of religious thinking to modern forms of technology without apparent conflict. Techno-animism demonstrates how, and why, traditional religious beliefs may continue to persist in an increasingly globalized, scientific worldview.

The New Brazilian Conservatism as a Threat to the Secular Science Education

Pedro Pinheiro Teixeira, Pontifical Catholic University of Rio de Janeiro

This work carries out a theoretical reflection on the advance of the new Brazilian conservatism on Education and, more specifically, Science Education. For the past decade, far-right movements have grown around the world and are transnationally connected. In many countries, they encompass conservative religious groups, express anti-secular positions, and attack democratic institutions. In Brazil, the far-right strengthened throughout the 2010s, when conservative Evangelicals and Catholics allied with neoliberal sectors and formed the so-called Brazilian neoconservatism. In a context of economic crisis and corruption scandals, neoconservative politicians have increased their popularity and have defended traditional and religious moral values, the reduction of the State intervention on economy, and more severe punishment to criminals. Therefore, Religion has been a fundamental component of current Brazilian politics, affecting the secularity of the State and Public Education. Education, for Brazilian neoconservatives, is a key field of action. In their view, teachers and schools are leftist secularists who try to indoctrinate pupils to abandon their family's beliefs and moral values. Far-right movements and bills in federal, state and municipal levels have been seeking to limit school curricula. In the context of science teaching, this is the case of gender issues and the theory of evolution. For neoconservatives, gender is not distinguished from sex, it is determined by chromosomes, and any sexual orientation different from heterosexuality is considered deviant and morally reprehensible. In the case of evolution, there are bills that defend the introduction of creationism at all educational levels, as well as groups defending Intelligent Design. In conclusion, we can say that these political flags compromise the quality of science teaching and support an authoritarian and anti-secular view of education. Although the neoconservatives were defeated in the last presidential elections, future studies need to be aware of the actions of neoconservatives in the coming years.

Religion, (anti-) Gender and Digital Activism in Spain

Rafael Costa Cazarin de Brito, Autonomous University of Barcelona

Within the fragmentation of spaces for the construction of meaning and the growing mobilization of religious identities in the public sphere, the COVID-19 pandemic context caused an explosion of digital activism. The creation and circulation of content in which the mixture of different fields of knowledge and symbolic universes proliferated on social media.

This paper presents part of the results of a research project conducted for one year in online spaces focusing primarily on Spanish digital religious activists. We sought to identify and examine the key scientific and religious arguments about the human body in relation to gender and sexuality. We will explore here the circulation of content between activists in Spain linked to religious groups and the increasingly important use of scientific arguments within debates around the body, gender and sexuality. To do so, we will share a typology of social media profiles and narratives in which religious and non-religious beliefs intersect with the biological sciences and biomedical knowledge.

Methodologically, the project is based on a digital ethnography in social networks and the analysis of discourses, images, and audiovisual content produced by religious and non-religious Spanish advocates and organizations that deploy digital activism linked to moral projects, ethical regulations, and visions on gender and sexuality.

Gender, Sexuality, Science, and Religion

Rebecca Catto, Kent State University

The social scientific study of science and religion has expanded considerably in the past decade - in terms of geographic locations and foci. The 'Science and Religion: Exploring the Spectrum in Global Perspective' large-scale, multidisciplinary research project is contributing to this continued expansion. In the proposed paper, team members from this project examine an area in need of further research in relation to science and religion: gender and sexuality. From emerging analysis of data collected in Spain and the USA as part of the project - via interviews, focus groups, and media reviews - it is clear that this is a significant theme which pre-existing frameworks are insufficient for understanding.

Based upon a systematic literature review and empirical illustrations, we focus upon the topic of reproductive health and rights to develop new theoretical tools combining work on gender and sexuality and science and religion. Drawing upon Connell's (1987) concept of "arenas of struggle" in relation to gender and power, this paper presents the concept of the battlefield. In national contexts of political polarization, issues related to gender and sexuality become contested in the public sphere. Both scientific and religious authority, institutions, and discourses are mobilized and sometimes weaponized in such contestations, in a way that directly impacts people's daily lives. The concept of the battlefield helps sensitize scholars in the fields of gender and sexuality, and science and religion, to how these fields are deeply mutually implicated.

Do we Trust Science and Scientists? A Preliminary Cross-Country Exploration into how Social Religious Identity Relates to Trust

Rebecca Hughes, University of Birmingham

Previous research investigating perceptions of science and scientists indicates that there are certain physical, behavioural, and belief system related attributes which people associate with being a scientist. Social identity theory indicates that our identification with social groups can impact how we see ourselves and other groups. However, not much research has specifically investigated religious social identity and its relationship to trust of science and scientists. The current research consists of 4 studies (n = 1146) across 4 countries (UK, Germany, Spain, Argentina) investigating perceptions of scientists, relating to religious social identity. This exploratory research includes several targets with multiple identities, combining religious identity (religious, spiritual, atheist, non-religious, or none specified) and scientist identity (science or evolutionary science). Findings show that social religious social identity does relate to the view of scientists. Religious participants, regardless of country, rated scientists as more trustworthy than evolutionary scientists. Exploration of trust in scientists with different (non)religious identities (religious, spiritual, atheist, non-religious, or none specified) by personal religious identification revealed not only an ingroup bias, but an overarching bias towards a scientist without any (non)religious identification, which provides an interesting avenue to further explore.

Gerotranscendence and the secularization of society: A Canadian perspective

Renate Ysseldyk, Carleton University

Numerous large-scale surveys in the United States and Europe suggest steady generational declines in religiosity and religious social participation, with visible shifts from one cohort to the next (Idler, 2022). And yet, research considering the secularization of society has largely ignored age and ageing as important points of inquiry (Idler, 2021). Similarly, beliefs in science and religion-science compatibility have rarely been investigated from a gerontological perspective, despite the long-standing concept of gerotranscendence (Tornstam, 1997), and evidence that religious and scientific identities and belief systems need not be mutually exclusive (Sharp et al., 2022). Indeed, the increasing salience of one's own mortality may enhance religious and/or spiritual concerns among older adults, alongside practical implications of mounting biomedical needs and care considerations. Given a rapidly growing ageing

population (WHO, 2022), the need for inquiry into this topic has never been greater. Thus, our guiding research question is “How do older adults understand their own (non)religious and/or spiritual identities and beliefs in science within an increasingly secular society?” More specifically, in this project, funded by an INSBS small research grant, we will examine older adults’ perceptions of compatibility among their (non)religious and scientific identities and belief systems, with implications for coping with health ailments (e.g., acute, chronic, pandemic-related) and care choices (e.g., vaccinations, end-of-life care). To achieve these aims, this project will entail a large online survey as well as interviews with Canadian older adults. This presentation will summarize our study protocol and/or preliminary findings. In keeping with the aims of the INSBS, it is expected that our outputs will impact older adults’ and community stakeholders’ perceptions of the relations between (non)religion and/or spirituality and science, as well as engage with academic and societal dialogue regarding the importance of addressing older adults’ life (and death) choices regarding spiritual care in health and medicine.

Public Discourse about Science and Religion Relationships on Contemporary Moral Issues: Social Dynamics and Frames in Twitter during the Abortion Debate in Argentina

Reynaldo Rivera, Universidad Austral (Argentina)

In Latin American societies, where there is not a science and religion conflict in the public sphere, the debate on moral issues would ignite clashes between different world views and groups, which may follow the conflict narrative or use scientific and / or religious discourses to present their arguments.

Micro-blogging platforms like Twitter are relational spaces where stakeholders and publics find a common ground to discuss their ideas, which sometimes adopt the form of disinformation, epistemic bubbles or polarized discourse. Online networks have a deep structuring effect on worldviews configuring new geographies of knowledge and influencing publics’ perceptions and attitudes.

Although the frame of a necessary epistemological conflict between science and religion has been deconstructed, there are few studies analyzing contemporary moral debates in virtual spaces that may reproduce that framework. Simultaneously, recent studies raised criticisms regarding the scientific methods used by researchers in the field: several studies adopted quantitative approaches and focused exclusively on developed countries. Few projects analyzed diverse people’s voices and discussed the binary frame imposed by agents who consider the relationship between science and religion as negative and/or mutually exclusive.

Based on big data strategies, this paper presents a discourse and sentiment analysis of publics’ perception of science and religion relationships in a corpus of 12 million tweets posted by 225,000 Argentinean users during a period (March – July 2018) when the national Congress started the debate about the legalization of abortion. After identifying hashtags about science and religion, we classified relevant agents and groups and analyzed their discourse in order to identify the online debate’s framings regarding the relationships between scientific and religious horizons of knowledge on an issue that generates polarized moral disagreements, especially between some religious groups (like evangelicals and catholics) and social movements.

Mechanising Mediumship: The Problem of Instruments in Twentieth Century Spiritualism

Richard Noakes, University of Exeter

In October 1920 American newspapers circulated the sensational story that the doyen of electrical invention, Thomas Alva Edison, was building an apparatus that could enable the living to contact the dead independently of spiritualist mediums and what Edison mocked as the 'childish' practices of table-rapping, planchettes and Ouija boards. Although Edison never seems to have built the apparatus, the story stimulated an otherwise lukewarm debate among spiritualists, psychical researchers and others on the question of what was variously called 'mechanical mediumship' and 'instrumental' communication with the spirit world (the ancestors of Electronic Voice Phenomena and Instrumental Transcommunication).

Focusing on the period approximately 1900–1950, and based on mainly American, British, Dutch and French sources, my paper analyses what was at stake in this debate, apart from the obvious question of whether

instruments could and did yield conclusive proof of discarnate personalities. A key area of disagreement was whether human mediums were essential to spiritualism's progress. Alarmed by embarrassing exposures of mediumistic fraudulence, and the perceived declining membership of their 'movement', some spiritualists argued that instruments that either replaced mediums or induced mediumistic qualities in people not born with the 'gift', was the only way to bring spiritualism's teachings to humanity. Others, however, interpreted instrumental intrusions into seances and other spaces of spiritualistic enquiry as threats to spiritualism's core practices, values and objectives, including the privileged place of human mediums and the need to combat mechanistic and materialistic worldviews. Accordingly, my analysis these debates provides new insights into historical meanings of instrument and experiment in spiritual experience.

Atheism, Religious controversy, Science and Life in the Early Twentieth Century

Robert Bud, The Science Museum, London

Since the eighteenth century the nature of 'life' has been a fundamental point of difference between many religious believers and non-believers and has engaged laypeople in issues of biology. Surprisingly, though, twentieth-century differences have been little studied. Liberal religious attitudes as well as varieties of deism and atheism have differed fundamentally from traditional confessions in which the immaterial soul has defined the human being. Furthermore, in different countries fundamentalist and liberal religious traditions have experienced different trajectories and have experienced different relationships to strong forms of atheism.

The issue of Life mediated the gap between large religious movements and small numbers of scientists. Many of the leading molecular biologists of mid-century wrote books about life addressed to the public, intended to engage, and contend, with popular ideas. In the early 1980s there was a vigorous debate about the extent to which molecular biology had been inherently 'reductionist'. I shall suggest that engagement with religion may be even more illuminating. Four contexts will be examined: France, Germany, Britain, and the US.

This paper will focus upon the interwar and early post World War 2 era and report on a study of networks in the four countries over a three-decade period. The presentation will suggest that the expression of materialist, and nonmaterialist, biochemical and molecular biological traditions, in the first two thirds of the twentieth century, can be understood in terms of their relationship to a spectrum of wider religious controversies between followers of atheist, liberal and traditional religious traditions which worked differently within contrasting national discourses.

As a case study I shall discuss a film about the history of life made in Germany (Natur und Liebe) during the 1920s, incorporating religious references, and remade separately in both the UK and USA as humanist texts in the early 1930s. The transformations made and the responses of censorship authorities indicate the separate tensions between science and religion in these three countries.

Secularity as an neglected assumption in the training of future Science and Biology teachers in Brazil

Rodrigo Cerqueira do Nascimento Borba, University of the State of Minas Gerais, Brazil

Brazilian school curricula are undergoing changes without a broad prior discussion in society. Consequently, teachers have been protesting and resisting such changes. Aware of this, curricular policy makers try to increase adherence to the new curricula based on changes in legislation that guide teacher training, forcing the imposition of the controversial curricular arrangements on future teachers. This paper aims to discuss how the secularity of education has been a hidden subject in the reforms aimed at the training of Brazilian Science and Biology teachers, despite the numerous risks that this entails. In order to deepen this discussion from the perspective of what has been proposed for teacher training, the present paper analyzes official Brazilian documents and triggers interviews with Science and Biology teachers from different public schools to understand how the political scenario has affected their professional trajectories and their ways of teaching. As a result, it was pointed out that in Brazilian classrooms, the climate crisis, vaccination, sex education, the origin of the universe and the evolution of

living beings are examples of themes that have become even more controversial due to the denialist and conservative influence of Brazilian politicians linked to certain religious denominations. In agreement with other studies, the analyzed interviews evidenced that the religious beliefs of Brazilian students and teachers often create environments that favour scientific denialism by reinforcing literal readings of sacred books or dogmas of faith, in addition to clashes about the characteristics and purposes of Science and religion. Given this scenario, training Science and Biology teachers capable of dealing with these issues in their classes, from a secular perspective and, therefore, respectful and without religious proselytism, has been a challenge not addressed by recent educational policies.

The Role of Faith in the Mental Health and Wellbeing of Black Pentecostal Christian Students of East African descent at Universities in the United Kingdom

Ronalds Busulwa, University of Huddersfield

The mental health (MH) of university students is of increasing concern and there is a surge in demand for MH support services. Increased migration and successful international students' recruitment strategies have led to more students of East African descent studying in the UK. Besides experiencing common student concerns like academic pressures, financial worries and loneliness, further problems are faced by this group of students that can impact their mental health for example, issues with immigration status, racism, adjusting to a new environment, cultural differences, learning a new language, and these problems eventually can impact negatively on their MH. Because going through the process of international migration may increase the risk of experiencing MH issues, many may turn to faith as an intervention. The fastest-growing faith movement in the UK is Pentecostal Christianity. The aim of this research is to explore the role of faith in their MH and wellbeing. A shared understanding of the students' coping strategies and ways in which faith may help or hinder students to maintain good mental health will be explored. Hermeneutic phenomenology is the chosen approach guided by Gadamer's philosophy to help me explore and develop a shared understanding of students' experiences. 20 participants were interviewed for this research both male and female representing the East African community (Burundi, Kenya, Rwanda, Tanzania, and Uganda). A poster advertising for the research was posted on several social media platforms (Twitter, Facebook, Instagram) encouraging participants to contact me if they met the criteria and wanted to participate. Participants were selected by purposive sampling and semi-structured interviews were conducted via Microsoft Teams to draw out data of greater depth. Interviews were audio recorded and transcribed verbatim. Data analysed by thematic analysis using the inductive (bottom up) approach with focus on latent themes.

ART treatments and Islam: an empirical analysis of the relationship between science and religion

Rosa Martinez Cuadros, Universitat Autònoma de Barcelona

In the last decades, there has been a growing interest in studying Islam. Much of the research has focused on the role of religion in the public sphere and in secularised contexts such as Europe. This has emerged in a moment of a growing presence of Muslim population together with the current geopolitical situation specially after 11/9.

The raise of Islamophobia and the literature on Muslim women have been common themes in the literature and research on Islam in Europe. Less research has focused on the role of Islam in scientific debates and on how Muslim communities have to negotiate the relationship between religion and science. The aim of this article is twofold: first, to analyse how Muslim key actors understand the relationship between Islam and science and, second, to explore how this understanding is negotiated in the case of ART treatments. Based on semi-structured interviews to Muslim Health Professionals and Muslim leaders of associations in Barcelona and Tangier, I focus this study in two different social and political contexts. Barcelona is analysed as a city in which the presence of Muslims is still characterised for being a minority. In contrast, Tangier has been selected as a city of a Muslim majority country in which the discourses can also be shaped and negotiated through the existing Islamic law.

Belief, Atheism and the Scientific Ideal during the Metaxas' regime in Greece (1936-1941)

Sandy Sakorrafou, IHR/NHRF (Athens)

In 1936, General Ioannis Metaxas established a dictatorship in Greece that lasted until 1941. His regime was officially justified as a means to prevent a Communist-inspired revolution. Metaxas was promoting the rebirth of the Greek state through the scientific ideal and religious faith. According to Metaxas, the Orthodox Church of Greece –which had contributed to the forging of the national ideology in the past– should once more provide for the spiritual regeneration of modern Greeks. The Church embraced the dictatorship's vision that recalled the traditional model of 'Helleno-Christian Civilization,' as well as its struggle against the atheistic Communist threat. The network of para-ecclesiastical organizations that emerged at the time was seeing the social and moral progress of the Greek nation in harmony with Orthodox Christianity; science had a supportive role to play in this enterprise. The present paper will explore the 'conversation' on the relationship between science and belief (already a matter of apologetic discussion by the late 19th century in Greece) taking place through the channels of the Greek Orthodox journals and books as well as speeches delivered by Metaxas and various metropolitans. The objective of this attempt is to reveal their interrelated public perceptions of the relationship between science, religion, and atheism, along with their respective roles in Greek society.

Interreligious Dialogue and a Multi-Religion Approach to Science-Religion Compatibility

Sally B. Barker, University of Maine

How do people that engage with religious diversity view the religion-science relationship? We investigate the impact of interreligious dialogue (IRD) and a multi-religion approach on perceptions of the science-religion relationship. A multi-religion approach views "religion" inclusive of many ideological traditions – each with unique relationships to science (Moore, 2004). This approach confronts stereotypes of religion as a monolithic, unchanging entity in the science-religion relationship. In two mixed-method studies, we examine the role of multi-religion approaches in descriptions of science-religion relationships on perceptions of compatibility (Leicht et al., 2020). We discuss instrumental cases and results of an emergent theme – perceived compatibility and complexity when adopting a multi-religion approach. In study 1, we sample religious people in STEM-related jobs in the U.S (N=511) to examine associations with compatibility and the science-faith interface (Ecklund et al., 2016) to Xenosophia/IRD (Strieb & Klein, 2018) and desired contact with varied science-religion identities (Sharp et al., 2020; Ysseldyk et al., 2010). We find a significant positive relationship between Xenosophia/IRD and compatibility. When prompted with a contact opportunity, participants most wanted to interact with other scientists, and least with religious non-scientists. Those higher in Xenosophia/IRD were more interested in religious identity regardless of science identity. In study 2, we examine the impact of a multi-religion curriculum in students at a public STEM-focused university (N=117). Compared to the general study population, students enrolled in a multi-religion curriculum had greater perceived conflict. Although a multi-religion approach is associated with compatibility, this may rely on IRD more than exposure alone. Can conversations about science-religion compatibility inform better IRD and vice-versa? Based on our findings, we discuss the potential of approaches to build more inclusive societies by combating polarization due to ideological divides (Cohrs, 2012) and inform science encounters in IRD (Henry, 2018; Oxford Interfaith Forum, 2022).

Demography and Religious Difference

Sayori Ghoshal, University of Toronto

How did the rise of statistical reasoning affect the social conception of religious communities? In this paper, I focus on Hindu ideologues who introduced and popularized demographic reasoning, that is, statistical categories of birth rate, mortality and growth rate, in modern India, which only later became part

of national governance. In early 20th century India, informed by colonial practices of the census, as well as the global discourse around food and population, upper-caste public intellectuals turned their attention to the question of racial degeneration of Hindus versus Muslims. These debates, appearing as published monographs and newspaper articles by Hindu physicians, journalists and lawyers, differed on the exact extent of degeneration and its causes. However, all the interlocutors conceded to the urgency of as well as the calculative method for addressing the question of Hindu degeneration.

Framed as biological, caste-based, and religion-based, degeneration was calculated in terms of birth rate, growth, longevity, and mortality. By bringing together concerns around caste practices, the weakening of Hindus' religious dominance and secular, statistical reasoning to calculate rates of growth and mortality, the early 20th century debates contributed towards the legitimization of calculative reasoning to address historical, social questions of community divide, caste discrimination and religious hostility. The concern with degeneration, framed as an intersection of religious and social practices, economic conditions and biology, reconstituted ideas about community boundary as well as how communities could be measured against each other. This analysis shows how calculative reasoning became ubiquitous, especially proliferating in the public sphere, as an irrefutable, legitimized mode of claim-making. Despite the claim of objectivity, such data of religious communities has often been embroiled in narratives of discrimination, exclusion and violence. These continuities and contemporary events highlight the need to examine the rise of demographic reasoning in approaching questions of religious identity and difference.

Kindness, Science, and Religion During COVID-19

Shiri Noy, Denison University

COVID-19 was marked by high levels of uncertainty: social, economic, and beyond. Many Americans turned to faith and science to navigate the personal, social, and health challenges wrought by COVID-19. Drawing on interviews with over 50 American adults in early 2021 I examine how religion and science informed respondents' understandings of kindness, helping, and community in the pandemic. My analysis suggests that religion is an important source of understanding kindness, morality, and social obligations for many Americans, including those who grew up in religious households but no longer consider themselves religious. Further, science was differentially embraced by the religious and non-religious across political lines in the United States, speaking to the politicization of science and scientific guidelines during COVID-19. I conclude by discussing how science and religion operate as cultural and epistemic authorities to inform Americans' understandings of care, help, and community during times of uncertainty.

The Impact of Politics and Mass Media on the Nexus between Science and Religion in Sri Lanka

Siri Hettige, University of Colombo, Sri Lanka

Public attitudes and perceptions on science and religion are shaped by a number of key factors in any society, including the nature of general education, dominant political ideologies and the country's media landscape. Once formed, public attitudes and perceptions persist and guide the thinking and behavior of people in their day to day lives. The social, cultural and political developments in recent decades in Sri Lanka indicate a clear convergence of ideas, beliefs and practices that reinforced long established religious beliefs and practices among the vast majority of people in the country, often at the expense of a scientific orientation that is required for them to function rationally in a modern complex society faced with numerous challenges, both natural and human induced. In this paper, it is argued, based on accumulated evidence from recent social science research (Little and Hettige, 2015) that socialization of children and youth has been influenced by an education system and media landscape heavily influenced by dominant religious institutions. In this regard, it is also significant that there are several TV channels dedicated to the propagation of religious beliefs and practices, while there has not been a single TV channel providing significant space for science related programming that usually contributes to improving scientific literacy in the general population. This is evident from empirical data on religiosity among youth in Sri Lanka (Hettige, Graner & Amarasuriya, 2014). Another factor that has played a significant role in the above regard is the upsurge of political populism that heavily relied on popular religion for its success in

recent decades (Subedi and Hettige, 2022). The paper is based secondary data derived from published and unpublished research of the author and others.

Science Communication, Islam and Muslim Communities: Lessons from a Study of British Muslim Religious Leaders

Stephen Jones, University of Birmingham

Muslims are widely stereotyped as a group that is uniformly opposed to the principle of biological evolution due to the fact that it conflicts with their religious beliefs, which are widely portrayed as inflexible and incompatible with rational thought (Jones et al., 2019; Unsworth, 2019). This stereotype has been challenged by recent social research in the UK and USA, which has shown that evolution rejection among Muslims is much lower than generally assumed (Unsworth and Voas, 2018) and that evolution is rarely salient to Muslims' religious identities (Guhin, 2016; Moran, 2019). This research has, however, almost exclusively focused on lay publics, which leaves open questions about how evolution is perceived in contemporary Islamic education, leadership and public debate. In this paper, we draw on 40 interviews and 5 focus groups with British Muslim religious leaders, along with observational research at four Islamic educational institutions, to provide an account of current perspectives on, and debates about, science and evolution within British Islam. Evolution has been a point of tension and controversy among British Muslims in the past, but we find that the subject is a matter of increasingly open discussion among Muslim leaderships. Several Islamic institutions have sought to develop education programmes on the subject and to open up 'interpretive space' for the concept. We review these discussions and outline the implications for evolution education and outreach, making specific criticisms of how religion has been almost entirely ignored in science communication and outreach work.

(Dis)trust in Science, Religiosity and Intellectual Character: a survey

Tiago Garros, Marcelo Cabral, Jonathan Simões Freitas, Brazilian Association of Christians in Science (ABC2)

Brazil has been in the forefront of world news over the last 3 years, mainly due to its notoriously catastrophic handling of the Covid-19 pandemic, alarming deforestation rates and overall discredit of scientific expertise done by Jair Bolsonaro's administration. All this has been entangled with religious discourse, and we know that conspiracy theories and anti-vaccine attitudes have been more common between conservative evangelicals. Given this scenario, we carried out a study that builds on the work accomplished in the seed grant scheme and aims at answering the following question: "how is (dis)trust in science (TiS) associated with religiosity, educational background, and intellectual character?". Our objective was to find consistent and comprehensive correspondences between sets of people (Thiem et al., 2016) and not correlations only. More specifically, for a given set of people who (dis)trust in science, we want to know which would be the most parsimonious way(s) to describe that same set of people in terms of their religious, educational and intellectual profile. To measure TiS we used the "Trust in Science and Scientist Inventory" (Nadelson et al., 2014) and added the 6-item Credibility of Science Scale (Hartman et al., 2017), which allows for measurement comparisons. For intellectual profile, we used the Intellectual Virtue Scale (Meyer & De Bruin, unpublished) which considers all of the core aspects of intellectual virtues/vices highlighted in the corresponding philosophical literature. And for religiosity, the widely used and recommended Centrality of Religiosity Scale (Huber & Huber, 2012) was selected. Our sample (n=973) included a large number of people who are life-long committed evangelical Christians that are part of a community that cherishes intellectual aspects of life and embrace science, therefore, the results promise to be quite interesting.

"Work God has called us to do": examining religion's influence in the provision of assistive technologies to deaf Jordanians

Timothy Y. Loh, Massachusetts Institute of Technology

This paper examines religious ethics among Jordanians involved in projects to provide assistive technologies to deaf people in Jordan, including medical-rehabilitative devices like cochlear implants and non-medical technologies like sign language-centered mobile applications. While anthropologists of religion have begun to probe how religion shapes how users' engagements with various technologies (e.g. Hamdy 2012; Inhorn 2012; Sargent 2020), comparatively less ethnographic attention has been paid to the social, economic, cultural, and religious reasonings that motivate people to engage in the production and provision of these technologies (but see Roberts 2012)—in my case, these producers comprise two co-founders of an educational technology start-up, one Jordanian and one Syrian; audiologists and speech therapists at a hospital in Amman; and employees at a government advocacy body for disabled Jordanians. Over 15 months of multisited ethnographic fieldwork, my Muslim and Christian interlocutors frequently discussed their involvement in such projects as moral decisions or as part of their personal religious obligations. This "need to help" (Malkki 2015), for example, emerged often in meetings I attended at the government advocacy body, where one of our supervisors, a disabled Jordanian Christian woman, would explicitly frame the project we were working on at the Higher Council evaluating and developing sign language and deaf education in Jordan as work that God had called us to do, across ecumenical lines, since the team was made up of both Christians and Muslims. I use this case to argue for the importance of paying greater attention to how religion influences the provision of new technologies.

Christian church leaders as character witnesses for science: the case of vaccination during the pandemic

Thoko Kamwendo, Durham University

Despite a lack of empirical evidence, there is an intuition within public health literature that religious leaders have the ability to influence the uptake of public health policy. In this talk I explore how Church of England clergy navigated the issue of immunisation in their communication with members of their congregations. The results from a qualitative survey run in the summer of 2022 (n=175) show that most clergy worked to encourage vaccination, albeit with varying degrees of forcefulness. I argue that clergy functioned as important communicators and translators of both science and government policy during the running of the UK covid-19 vaccination programme by drawing on two main theological justifications: the Christian doctrine of love for one's neighbour and the notion of the vaccine and related infrastructure as a gift from God.

Religion-Science Views in Australia's Creationist Heartland

Tom Aechtner, University of Queensland

Australia sits at the crossroads of two significant trends, which together may be influencing public perceptions of science and religion interactions. The first of these consists of Australia's noteworthy role in fostering national and international expressions of Christian Young Earth Creationism. The second trend involves the country's steady decline in Christianity, as well as a countervailing rise in Australians who self-identify as having 'No religion.' Together, what emerges is a picture of Australia in which it has served as an historical hub of Christian antievolutionism, while experiencing a consistent decline in Christian self-identification. This raises questions about how Australians today conceive of religion-science interactions in association with these national contexts. To help answer such questions, this paper reports on qualitative interviews and focus groups conducted with members of Australia's general public and scientific community in the state of Queensland. Its findings reveal that the majority of religious participants articulated that religion and science, and more specifically, religion and evolutionary science, do not need to be in conflict. Contrary views, however, were expressed by nonreligious Australian participants. While religious Australians insist that science is compatible with their own beliefs, nonreligious individuals vehemently disagree. This paper uncovers how creationism appears to have

become a non-issue, even in one of the world's creationist heartlands. Instead, it is nonreligious Australians who exclaim that evolution and religious faith must be at odds with one another.

The Case for Normativity in Studies of Science and Belief in Society

Will Mason-Wilkes, University of Birmingham

Recent scholarship on science and belief in society has shown a reluctance to make normative claims about how science, belief and society, should interact and how the relationships in and between them should operate. Resistance to academics making normative claims of this sort may be justified on the grounds that they would be made from a privileged position and would not necessarily acknowledge, or would work against, less advantaged groups' own normative agendas. Such objections are not easily dismissed. However, total rejection of academic normativity allows unreflexive and less pro-social influences to set the normative agenda. In this paper I will set out the case for normativity in sociological studies of science and belief. Drawing on the concept of Elective Modernism (Collins and Evans 2017), on my own empirical research into media representations of science, and other relevant concepts from Science and Technology Studies (STS) (e.g. Responsible Research and Innovation) I will demonstrate that it is both analytically useful and socially beneficial for scholars of science and belief to adopt a normative stance. That is, a stance which allows us to describe how we think relations between science, belief, democracy and society should be arranged. In this way, I align sociological study of science and belief with earlier sociological traditions, whilst arming it with STS's deconstructionist insights, allowing novel hybrid modes of sociological thinking to develop.

Democracy, Science, and Religion

Yiftach Fehige, University of Toronto

In my paper I offer an analytic engagement with the critical theory of Juergen Habermas. He remains committed to atheism and advocates a strong secularization thesis (religious traditions and modernity are irreconcilable). Yet, in his latest work he has made remarkable concessions to the reality of a continuing presence of religion in modern societies that are strongly under the command of modern science. He argues that there are two reasons for the persistence of pre-modern religious traditions. Firstly, religious rituals encapsulate meaning that remain inaccessible to secular thought, but have been essential in the process of hominization and thus define to a good part what it means to be human. Secondly, religious myths have actually enabled and not hindered scientific progress. In consequence, Habermas offers a theory of democratic decision making that compels secular and religious citizens to engage in a ceaseless process of mutual learning. The alternatives, according to Habermas, are an implausible reductive naturalism (scientism: only scientific rationality is rationality) and an unfair treatment of religious citizens in the sense that (a) basic tenets of democracy are violated (religious citizens as such cannot inform public discussions about important issues), (b) creates fundamentalist mentalities (the withdrawal of the faithful from the exchange of reasons pertaining to right behavior), and (c) deprives the liberal state of potential sources of normativity and meaning (the liberal state depends on mentalities and attitudes that it cannot produce). I will argue that Habermas' theory of democracy implies the imperative that religion is taught at public schools. The thesis I will defend is that pluralist societies deserve pluralist religious education at public schools. In my discussion I will draw on the remarkable curriculum renewal that was completed to that effect in the city-state of Hamburg in 2022.

Astronomy in the Great Mosque of Damascus: A social history of Ibn al-Shatir

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My working thesis is that, through his interaction with traditionalist religious elements, Ibn al-Shatir's work took on a more observation-led (i.e. empirical) bent.

My paper looks beyond the immediate mathematics and models of Ibn al-Shatir and examines seriously the religious, social, and cultural background that informed Ibn al-Shatir's work. As argued by eminent historian George Saliba, Ibn al-Shatir emphasises the role of observation in his work to a far greater extent than typical of the period. So far, historians working on Ibn al-Shatir have focused on his technical brilliance, in part because his work bears striking resemblance to that of Copernicus over a century later.

My work interrogates how Ibn al-Shatir's employment in the mosque and the intellectual milieu around him might have given rise to his distinctly 'observational' astronomical language. Ibn al-Shatir emphasises that unlike others in his time, he is not concerned with correcting the Ptolemaic model because of its 'theoretical' (i.e. Aristotelian) imperfections, but because it clashed with known observations.

This emphasis on observation seems to come from what David King calls the religious-scientific tradition of 'folk astronomy' which emphasises simple, eye-sight observations over technical mathematical procedures in determining the times of prayer.

I argue that Ibn al-Shatir was frequently in contact with elements of the religious scholarly classes that were in the 'folk' camp, thereby inducing the perhaps counter-intuitive results of 'religion making science more scientific', at least by our current ideas of science. My work is a study of the social relations and religious affiliations in the mosque, and how they came to bear on scientific practice.

De-Orientalizing the History of Science: Science, Religion and Knowledge Diplomacy

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This paper draws from, engages with, and builds upon several discourses, theories, and pedagogical approaches to explore the cross-cultural history of science and religious diversity to illustrate the "less visible" relationship between the "East" and the "West." I argue that a re-examination of these relationships in the co-creation of science can become a site where we can observe a deeper cosmopolitan pluralism and see more clearly the way that clashes between civilizations can be transgressed, destabilized, and bridged to imagine a new social, cultural and political world 'in the making.' Drawing from the history of orientalism and analysis of material culture and the cross-cultural trajectories of the "social life of things" I argue that we can look at the history of science as a practice of knowledge diplomacy that draws from different ideas and theories by identifying in detail the contours of the intersection between science and religious diversity. I then summarize my discussion and offer a few suggestions on how we can de-orientalize discourses of the history of science by "doing" and studying "science" and "religion" differently. I conclude that in this way, the history of science can provide pathways towards fostering deeper insights and understanding of the past that can offer new opportunities in the present to tell a new but old story of cultural engagement and inclusion, relationships of cooperation and connections between civilizations that transforms "old ideas" into "big ideas" towards new revolutionary pathways of knowledge production.