JÖRG MATTHIAS DETERMANN

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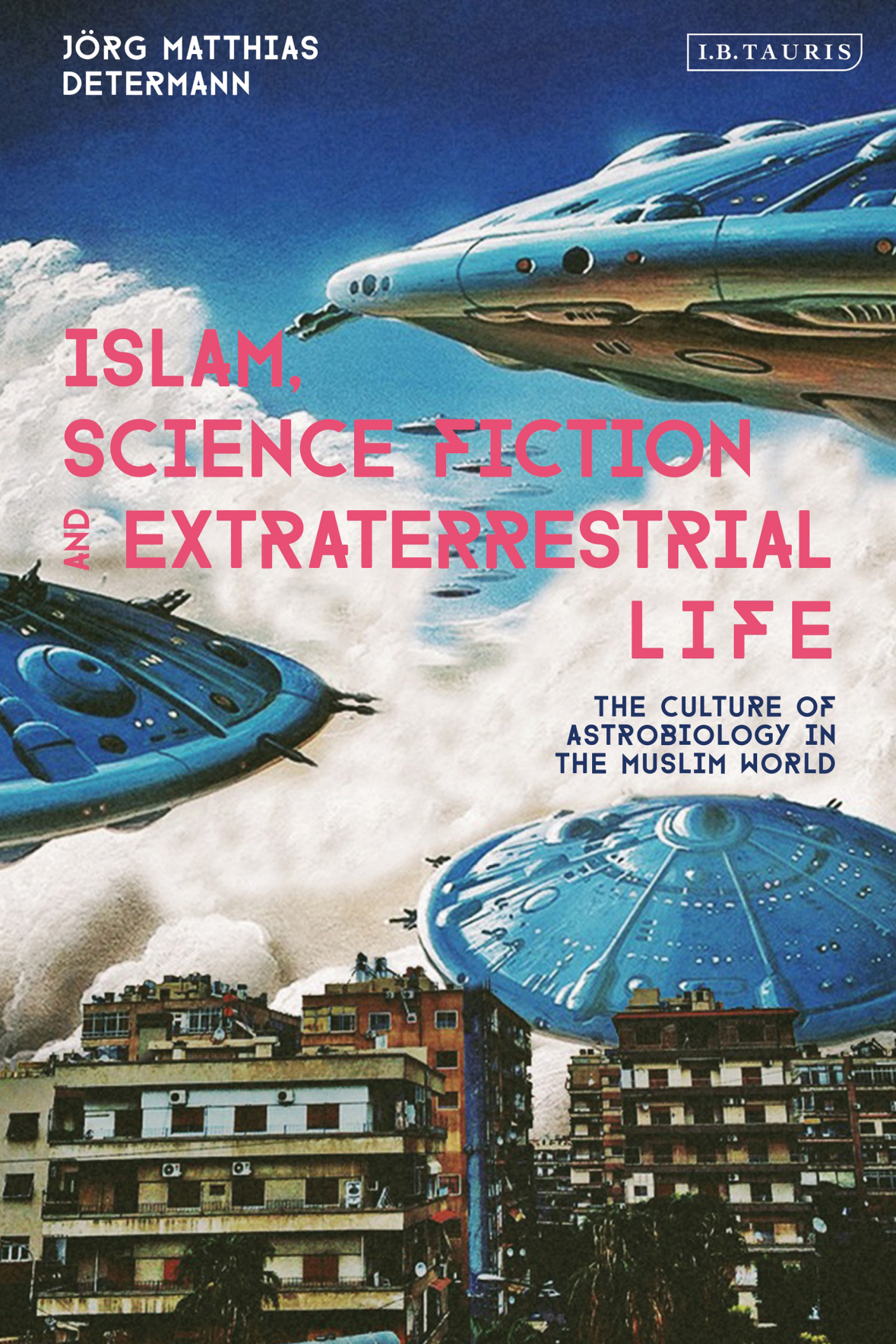

ISLAM, SCIENCE FICTION AND EXTRATERRESTRIAL LIFE

THE CULTURE OF ASTROBIOLOGY IN THE MUSLIM WORLD

Islam, Science Fiction and Extraterrestrial Life

‘This original and much-needed book fills a huge gap in the subject of astrobiology and society. Never before have the relations between astrobiology and Muslim science, culture, and politics been rendered in such vivid detail and with such solid scholarship. A must read for historians, theologians, and the general public interested in both Muslim culture and alien life.’

Steven J. Dick, Former NASA Chief Historian, Former Baruch S. Blumberg NASA/Library of Congress Chair in Astrobiology

‘*Islam, Science Fiction and Extraterrestrial Life* provides a kaleidoscopic view of the rich variety of ways in which Muslims have imagined, sought, and encountered life beyond our planet.’

Alireza Doostdar, Assistant Professor, Divinity School and the College, The University of Chicago

‘Determann presents readers with an engaging, in-depth and scholarly investigation into the ways in which Islamic writers, over the centuries, have written, thought about and engaged with the concept of extraterrestrial life. Determann breaks much new ground and makes a valuable contribution to our understanding of the history of the relationship between out-of-this-world ideas and religion, in particular Islam.’

David Weintraub, Professor of Astronomy and Director of Program in Communication of Science & Technology, Vanderbilt University

Islam, Science Fiction and Extraterrestrial Life

The Culture of Astrobiology in the Muslim World

Jörg Matthias Determann

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To my daughter, Maria, and her imagination

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Preface

While growing up in Germany and Austria during the 1980s and 1990s, popular adaptations of the *One Thousand and One Nights* such as Disney's *Aladdin* made a big impression on me as they did on many other children around the world. I loved fantastic creatures like the Genie. In the 2010s, I made further connections between speculative fiction and the Muslim world. In 2013, when I first came to Doha, I was mesmerized by its skyline. Having been used to the older architecture of Vienna, the Qatari capital looked to me like a city of the future. Over the years of living in the Gulf state, my friends and I jokingly compared different buildings to structures in outer space or on alien planets. John Laprise likened the Education City Mosque to a 'starport', and Jimmy Roach and I called the Qatar Foundation Headquarters a 'Borg cube'.

Despite such futuristic architecture and a tradition of fantastical tales, the Muslim world is still not commonly associated with science fiction. Religion, repression and rote learning have often been blamed for a perceived lack of creativity, imagination and future-oriented thought.[1] Nevertheless, even authoritarian countries have produced highly imaginative accounts on one of the frontiers of knowledge: astrobiology, or the study of life in the universe. Despite the influence of conservatives, I argue that the Islamic tradition has been generally supportive of conceptions of extraterrestrial life. For example, the Qur'an repeatedly refers to God as 'lord of the worlds', and Muslims have combined such notions with global astrobiological research and science fiction. The universe's strangest beings can thus be seen as creations, and evidence for the existence, of an all-powerful God. Governments too have played a positive role through their support of scientific research and writing. In any case, repression probably helped science fiction more than hurt it. Censorship arguably encouraged authors to disguise criticism of contemporary politics by setting plots in future times and on distant planets. If you are looking to explore connections between science, culture and politics in the Muslim world further, I hope this book will be insightful for you. It might also be stimulating, if you

[1] Khammas, 'The Almost Complete Lack'.

ever wonder about some of humanity's biggest questions. Are we alone in the universe? And what would it mean for one of our greatest faiths, if we are not?

I hope you will enjoy our cosmic journey. This book will take you to little-known dimensions of Muslim culture and religion, such as wildly popular adaptations of *Star Wars* and mysterious movements centred on UFOs. You will enter strange new worlds of the imagination created in Arabic, Malay, Persian, Turkish and Urdu texts and films. You will also discover how scientists in and from Muslim-majority countries have been at the forefront of the exciting search for extraterrestrial life, the ultimate Other.

This book could not have been written without the contributions of many people. Foremost are my research assistants who helped me understand sources in different languages. İrfan Batur and Haldun Faruk Gümüş reviewed many Turkish films and books for me. Shima Aeinehdar and Linda binti Ridzuan Chun examined Persian and Indonesian works respectively. Maphuza Akter and Mosammat Samiha Sadeka read Bengali fiction. Anusheh Zaman, Fajr Aamir and Walli Ullah analysed Urdu material. As part of their work, all of my assistants shared with me their deep cultural insights. Anusheh, Fajr, İrfan, Linda, Maphuza, Samiha and Shima were part of the Student Employment Program at Virginia Commonwealth University in Qatar. I thank Noor AlOraidi and Zeyad Bateiha for enabling their dedicated work. I am further indebted to my supervisors, especially Patty Paine and Byrad Yyelland, for their never-ending support and mentorship. At I.B. Tauris, an imprint of Bloomsbury, my editor Sophie Rudland, has been extremely helpful and enthusiastic. In addition, I acknowledge assistance by Sorcha Thomson and Yasmin Garcha. Matt Sparrow was an outstanding copy-editor, Ruth Ellis a meticulous indexer and Damian Penfold a stellar project manager.

I was fortunate to discuss the research for this book with various audiences in Africa, Asia, Europe and North America. In 2018, Alena Kulinich invited me to lecture about Arabic science fiction at Seoul National University in Korea. During the same year, I spoke at the conference of the British Society for Middle Eastern Studies at King's College London. I also had the honour of presenting at the World Congress for Middle Eastern Studies in Seville, Spain. Furthermore, I displayed a poster at the thirtieth General Assembly of the International Astronomical Union in Vienna, Austria. The Middle East Working Group at Virginia Tech sponsored another appearance of mine, which Carmen Gitre and William Ochsenwald kindly organized. In 2019, I was privileged to speak at Al Akhawayn University in Ifrane, Morocco. This was followed by a talk as part of the Council on Middle East Studies Colloquium at Yale University in New

Haven, Connecticut. In July of the same year, I presented at a symposium on 'Science Fiction Beyond the West: Futurity in African and Asian Contexts'. July Blalack and Tasnim Qutait led this event at SOAS University of London. I am indebted to Junita Patrick and Mary Amat for their help with the logistics of many of my trips.

At home in Qatar too, I was fortunate to present at different venues. In 2018, I spoke at the Qatar Faculty Forum moderated by Sara Hillman at Texas A&M University. The following year, Clyde Wilcox allowed me to discuss Muslim science fiction with the students of his course on Interstellar Politics at Georgetown University. In 2019, I had the opportunity to address the Department of Humanities and the Gulf Studies Center at Qatar University. I am very grateful to Peter-Polak Springer, Mohammed Khalifa Al-Kuwari, Mahjoob Zweiri and Paul Christians for making this possible. Later during the same year, Ali Fathollah-Nejad invited me to lecture at the Brookings Doha Center. Finally, from the comfort of my beautiful Doha home, I participated in the first Twitter conference of the British Society for the History of Science in 2020.

This book benefited from numerous other exchanges outside of conferences and seminars as well. I will be forever indebted to the anonymous reviewers commissioned by I.B. Tauris for their excellent comments. Informally, the following colleagues at Virginia Commonwealth University gave me feedback on parts of my manuscript: Holiday Powers, Jesse Ulmer, Maysaa Al-Mumin, Radha Dalal, Robert Bianchi, Ryan Browning and Sadia Mir. Several friends from other institutions in Education City were readers as well: Anto Mohsin, Ayman Shabana, Clyde Wilcox and Danielle Jones. A long list of peers based outside of Qatar provided me with additional observations and much other help. This list comprises the following experts in the history and social studies of science: Alireza Doostdar, Daniel Stolz, Hala Auji, Parviz Tarikhi, Robert Morrison, Stefano Bigliardi and Steven Dick. The list also includes a number of scholars of the arts: Anwesha Maity, Bodhisattva Chattopadhyay, Emad El-Din Aysha, Joan Grandjean, Max Kramer, Nat Muller, Nora Parr and Peter Hill. Several protagonists of the book shared their views with me as well. They include Azrul Jaini, Cevdet Mehmet Kösemen, Nozair Khawaja, Sohrab Rahvar and Syed Muneeb Ali.

Moreover, I would like to acknowledge a number of people who helped me access the different materials that are cited in this book. My interviewees shared with me many items from their personal libraries and archives. Special thanks go to Hosam Elzembely, Iraj Fazel Bakhsheshi, Reza Mansouri and Saks Afridi

for being extraordinarily generous. Rama Firmansyah introduced me to various creators of science fiction in Indonesia. Numerous other people alerted me to interesting material as well. They include Alaa Laabar, Fred Nesta, Hüseyin Sen, Maureen Buja, Rhys Himsworth, Trinidad Rico and Pius Vögele. At Virginia Commonwealth University in Qatar, Amy Andres, Beena Noorudeen and Iman Mazhar promptly ordered many books in different languages. The Qatar National Library, the British Library and Yale University Library granted me access to a vast range of materials. Zotero made it easy for me to keep track of all the items cited in my bibliography.

I owe my greatest debt to my family, however. My parents, Michael and Sibylle, allowed me as a child and teenager to spend countless hours watching television series. Besides *Aladdin*, they include *Star Trek: The Next Generation*, *The X-Files* and *Futurama*. I also fondly remember playing numerous video games with my brothers, Christian and Claudius, including *StarCraft*, *Freelancer* and *Halo*. These activities nurtured my interest in science fiction from an early age. More recently, I was able to benefit from wonderful conversations about Middle Eastern and South Asian history and politics with my parents-in-law, Peter and Sophia Vaz. They have been extremely interested in, and encouraging of, my work since 2015. That year, I met my wife, Jeanne Vaz. She has been not just an enormous help and a fantastic partner in life, but also an inspiration. In 2019, she gave me the gift of our daughter, Maria, to whom this book is dedicated. Here, I must also thank our nanny and housekeeper, Marilou Magsayo Semetara, who has been incredible in her work for our family.

1

Lord of the Worlds

'it is time we realized there is only "one world" even in history. If there is to be an "Islamic world," this can be only in the future'

– Marshall Hodgson, *The Venture of Islam*[1]

During the war that had begun in 2011, various forces fought over Syria. In the surrealist art of Ayham Jabr, one of them was Martian. Unlike the woman whom he loved, Jabr did not flee his country as a refugee. Instead, the young graphic designer stayed in Damascus. With little more than a laptop, an internet connection and a pirated copy of Adobe Photoshop, he created digital collages and distributed them via social media. One of his series made in 2016 was entitled *Damascus under Siege* (Figures 1 and 2). Combining scanned photographs and images found on the web, the collages show Martian spaceships hovering over his home city. 'They say they came for peace', Jabr commented. 'But who is really coming for peace? What they really brought is total annihilation.' The artist remained defiant. Those who were trying to destroy Syria would not succeed. 'After all the wars' in the past, his country had 'stood up again'.[2]

With his surrealism, Ayham Jabr was unusual among the artists who lived through the Syrian Civil War. Although he continued to work in the capital, he did not produce simple propaganda for the government. President Bashar al-Assad and his family hardly appeared. Nor was Jabr among the many artists who engaged in acts of creative resistance against the regime.[3] His work was mainly critical of foreign interventions. 'The terror the West is sending us is worse than hell itself', complained Jabr. His response was largely pacifist. The

[1] Hodgson, *The Venture*, 58.
[2] Köhler, 'No One Bombs'.
[3] cooke, *Dancing*.

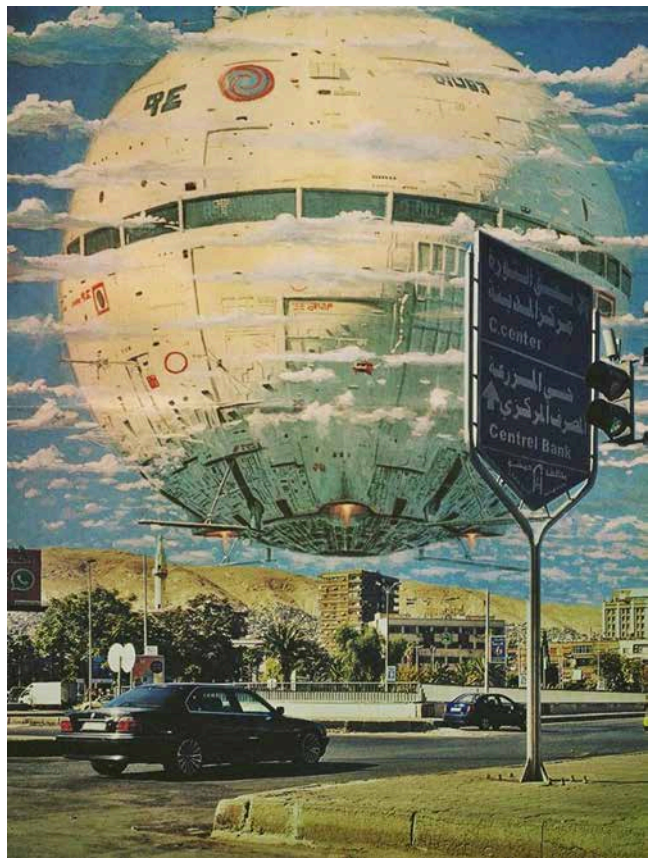

Figure 1 *Damascus under Siege-7* (2016). Courtesy of Ayham Jabr.

actual attacks on Damascus, and the ones of his imagination, were 'about greed, the illusion of power and striving for eternal reputation'. In the end, the violence did not produce any winners. 'Everyone has lost relatives', Jabr lamented. 'That is what is so hideous about the war: destruction and sorrow will cover all of us.'[4]

While Ayham Jabr was unusual among visual artists, he was not the only creator of science fiction in wartime Syria. Various amateurs created videos and memes inspired by Japanese anime series like *UFO Robot Grendizer* with their simple plots of good versus evil. Even if they were critical of the government, social media activists thus reused Arabic-dubbed material that had been broadcast by state television stations since the 1980s.[5] The Ministry

[4] Köhler, 'No One Bombs'.
[5] Al-Ghazzi, 'Grendizer'.

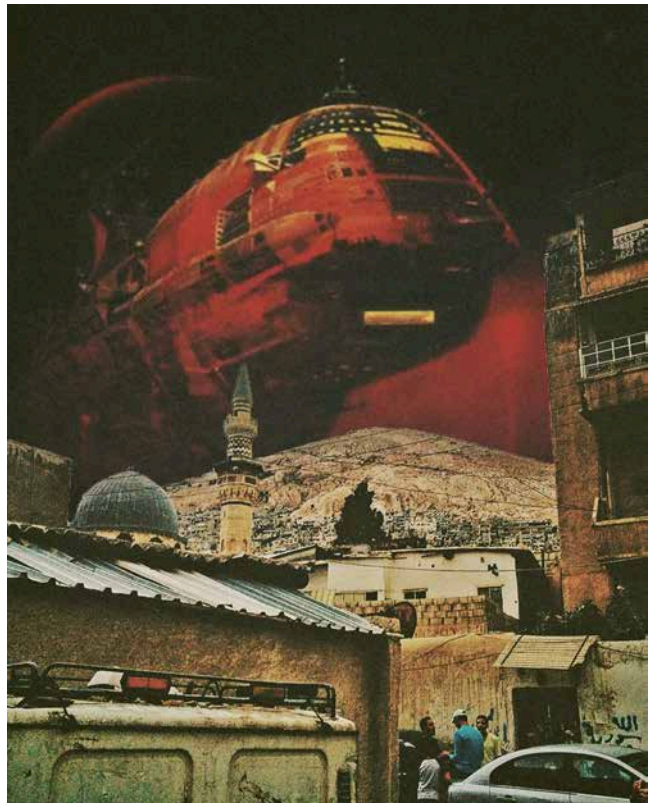

Figure 2 *Damascus under Siege-3* (2016). Courtesy of Ayham Jabr.

of Culture itself also published an entire magazine entitled *Science Fiction*. The editor-in-chief was the scientist, broadcaster and writer Taleb Omran. He was supported by an advisory board consisting of authors from Egypt, France, Kuwait, Lebanon and Morocco. The periodical included stories, reviews and literary studies. Other parts of the magazine were dedicated to science, both mainstream and fringe. An issue from 2013, for instance, featured articles on black holes, pollution and 'visitors from space in historical documents'.[6] The Arabic text of the various issues was interspersed with colourful images from popular global productions, such as *StarCraft*, *Star Trek* and *Star Wars*. Probably reproduced without permission, these images added appeal to the stories in a cost-effective way.

[6] Ḥūsh, 'Zuwwār'.

Science Fiction was one of the outcomes of the Lucian the Syrian Symposium, which had been held with sponsorship by the Ministry of Culture in Damascus in 2007. It was named after Lucian of Samosata, who wrote *A True Story* about a trip to the Moon in the second century. After discussing the history and philosophy of science fiction, the participants passed several recommendations. Besides the establishment of the magazine, they asked for support for the translation of literature into and from Arabic. Another suggestion was the teaching of their genre in secondary schools and at universities. The top recommendation, however, was the creation of an Association of Arab Science Fiction Writers, which was realized two years later.[7]

Although sponsored by a national institution, the Lucian the Syrian Symposium had an impact beyond the country's borders. Prominent authors, including Nehad Sherif from Egypt and Taibah Al-Ibrahim from Kuwait, were among the speakers. 'Overall the event was impressive', reported Kawthar Ayed, then a graduate student in Aix-en-Provence and Sousse. 'I have in the past attended SF events in Tunisia, France, Spain and so forth, but nowhere with such a reception, nor such broadmindedness.' Riad Agha, the minister of culture gave the opening speech, defending science fiction as a worthy genre and acknowledging his personal interest. Newspapers covered the symposium, and talks were recorded for a weekly television programme presented by Taleb Omran.[8]

The state's support for science fiction was remarkable for surviving long into the Syrian Civil War. By the time of its outbreak in March 2011, thirty-three issues of *Science Fiction* had appeared. Subsequently, the magazine's frequency was reduced from monthly to quarterly. Still, by January 2019, sixty-eight issues plus accompanying books had been produced. In addition, Omran established a new monthly called *Scientific Literature* in 2013. This periodical was issued by Damascus University and used a similar style and layout. Authors from elsewhere in the Arab world continued to advise the Syrian editor-in-chief. Amid shortages of all kinds, sixty-three issues of the magazine had appeared by November 2018. In the meantime, Omran had founded yet another literary journal called *Circles of Creativity*, which included Arabic science fiction as well. The Syrian Arab News Agency regularly publicized new issues of all three periodicals alongside updates from the front line.

[7] Al-Shammās, 'Al-nadwah al-ūlá'.
[8] Ayed, 'Lucien de Samosate le Syrien'.

Islam and science fiction

Taleb Omran had thus convinced his government to invest scarce resources in a highly speculative endeavour. 'Why science fiction?' asked Riad Agha in his opening article of the first issue of *Science Fiction*. This form of literature was the 'legitimate son of the age of science in which we live'. Science fiction was also 'a smart education tool that gives children a more comprehensive view and understanding of science, its achievements and its offerings'. Agha then quoted the American writer Isaac Asimov, whose name he Arabized as 'Isḥāq ʿAẓīmūf'. Out of 100 children reading science fiction, at least one would later become a scientist, Asimov had predicted.[9] In a subsequent opening article to the second issue of *Science Fiction*, Agha again stressed the importance of the genre. This form of fiction is 'the literature of the future'.[10]

In emphasizing the educational value of the genre, Riad Agha meant its fictional as much as its scientific aspects. 'Man is an imaginative being', the official stressed. 'The more he excels in imagining, the more he excels in innovation and invention.' 'Imagination is the evocation of images' before they are fully understood. Children create images, in which they 'drive a spacecraft' or 'meet intelligent beings from other planets'.[11] Agha further mentioned dreams of defeating old age and sickness, landing on 'distant planets' and meeting with 'the beings of other worlds'. Such creatures could be portrayed as 'aggressive' and 'authoritarian', striving for control and influence. Alternatively, they may be 'peaceful' and 'seeking friendship, love, and cooperation'.[12]

Many observers of Arab politics would have been surprised by the minister's commitment to nurturing the imagination. In 2009, the British journalist Brian Whitaker published a book titled *What's Really Wrong with the Middle East.* He wrote, 'Education in the Arab countries is where the paternalism of the traditional family structure, the authoritarianism of the state and the dogmatism of religion all meet, discouraging critical thought and analysis, stifling creativity and instilling submissiveness.'[13] Whitaker based his criticism on the United Nations' *Arab Human Development Report 2003.* This document had claimed that 'curricula taught in Arab countries seem to encourage submission,

[9] Riyāḍ Aghā, 'Al-khayāl al-ʿīlmī'.
[10] Riyāḍ Aghā, 'Adab al-khayāl al-ʿilmī'.
[11] Riyāḍ Aghā, 'Al-khayāl al-ʿīlmī', 5.
[12] Riyāḍ Aghā, 'Adab al-khayāl al-ʿilmī'.
[13] Whitaker, *What's Really Wrong*, 19.

obedience, subordination and compliance, rather than free critical thinking'.[14] It is puzzling then that an authoritarian regime would support science fiction as a very liberated genre, especially as it was struggling to control its population.

Did the Syrian state sponsor science fiction as a kind of 'commissioned' or 'licensed criticism'?[15] In other words, did speculative art serve as a safety valve for grievances or at least as a breathing space amid repression? The titles of some of Omran's novels, such as *The Search for Other Worlds*, might suggest escapism.[16] The magazine *Science Fiction* also offered some criticism of Arab politics, while avoiding mentions of the Syrian president Bashar al-Assad. The first issue included an article by the Syrian writer Zuhair Ghanem under the title 'The Fiction of Arabic Science Fiction Literature'. 'We have science fiction writers, but don't say that we have a science fiction literature', he cautioned. This genre in the Arab world was still in its infancy, he claimed, 'because of the dire conditions, backwardness, illiteracy, and the absence of mental structures and scientific research'. He further explained, 'we consume the products of science and do not contribute to it'. Reasons for the underdevelopment of Arabic science fiction also included 'the lack of reform, democracy and freedom of opinion'.[17]

In addition to being a means of releasing pressure and distracting from urgent realities, could science fiction have served as a sophisticated form of propaganda? By including critical voices, such as Ghanem's, were the magazines intended to support a facade of free speech and thought? Some of Omran's books displayed the logos of the Frankfurt Book Fair and the Arab Capital of Culture,[18] indicating that they were meant at least in part for foreign consumption. While interacting with many outsiders, the editor could be trusted as a loyal servant of the Syrian state. From Tartus, a stronghold of the Alawite-dominated regime, he had long worked as a professor at Damascus University and presented science programmes on radio and television.

Like Jabr, Omran was critical of the role of Western powers in the Middle East. In 2003, after the United States had started its War on Terror, he had published the novel *Dark Times*. On the title page, the book offers 'a depiction of a century whose horrific features had appeared on September 11'.[19] The novel is set in the near future, after a great power has waged a 'war of justice' and

[14] United Nations Development Programme, *Arab Human Development Report*.
[15] cooke, *Dissident Syria*, 72.
[16] ʿUmrān, *Al-baḥth*.
[17] Ghānim, 'Khayāl adab al-khayāl al-ʿilmī al-ʿArabī', 39, 42.
[18] ʿUmrān, *Fī kawkab*; *Dawwāmāt al-khawf*.
[19] ʿUmrān, *Al-azmān al-muẓlimah*.

colonized lands from the Mediterranean to Central Asia. It controls them through absolute monarchies that have the veneer of democracy. The appointment of client kings is legitimized through fake elections and empty concepts, such as 'popular sovereignty'.[20] Acts of resistance are denounced as terrorism. One good American doctor, however, puts himself in danger by saving a Syrian scientist who is detained as a terrorist.[21]

The regime type described in *Dark Times* was reminiscent of the Arab 'monarchic republic' or *jumlakah*. In such a hybrid system, presidents like Hafez al-Assad sought to perpetuate their families' hold on power through quasi-dynastic succession.[22] Nevertheless, Arab politics alone would be an insufficient frame for explaining Syrian science fiction. Taleb Omran's biography extended beyond his home country to other parts of the Muslim world. With a scholarship from the Indo-Syrian cultural exchange programme, Omran had completed a doctorate in mathematics at Aligarh Muslim University in 1984.[23] His encounter with a diversity of 'civilizations', 'races' and 'languages' in India had contributed to his writing, as he later explained.[24] Omran maintained his connection with Aligarh after his return to Syria. He acknowledged his former professors' help in a scientific article in the *Journal of the University of Kuwait* in 1989, for instance.[25] As for his literary work, it attracted the attention of critics not just in Arab countries, but also in Iran, a staunch ally of the Syrian government.[26]

It is useful to look at the Muslim world as a whole in order to understand another important factor shaping Syrian science fiction besides politics, namely religion. Brian Whitaker diagnosed 'religious sensitivities' as an obstacle for the development of the genre in the Arab world. The journalist quoted Muhammad al-Munajjid,[27] a Syrian-born Salafi scholar who had studied in Saudi Arabia. Back in 1999, al-Munajjid had issued a fatwa about the permissibility of reading science fiction on his website *Islam Question and Answer*. 'If these stories include lies, such as Darwin's theory (evolution), and other things that are contrary to the facts stated by Islam and the facts of natural science', the mufti wrote, 'then the Muslim should avoid them'. Ideas that amount to 'unbelief' include 'putting life and death in the hands of some created being' or 'saying that scientists in

[20] ʿAyyād, 'Al-khayāl al-istishrāfī al-siyāsī al-ʿArabī', 42–43; Ayed, 'La fiction', 52–53.
[21] Ayed, 'L'Image', 107.
[22] Billingsley, *Political Succession*, 145.
[23] Omran, 'Structures'.
[24] Naṣīr, 'Liqā'ʾ'.
[25] Omran, 'Almost Product Structures', 219.
[26] Khānlarī, 'Pazhūhishī pīrāmūn-i utūpiyā-yi mudirn'.
[27] Whitaker, 'Star Trekking'.

laboratories can create something from nothing'. Other intolerable imaginations were 'making inanimate things come alive, creating life from a fossil that has been dead for many millenia, or travelling to the future then coming back to the present'. 'Some people claim that this is just entertainment', the scholar acknowledged. However, even if it was not religiously forbidden, it could still be a waste of Muslims' time.[28]

Al-Munajjid's hostility towards the genre was shared by other conservatives in Saudi Arabia. Ibraheem Abbas and Yasser Bahjatt experienced such opposition, when they published their novel *HWJN*. Its plot centres on a romance between Sawsan, a medical student, and Hawjan, a ninety-year-old jinni from another dimension. Also part of the story are Sawsan's father and a sorcerer who seek to fight the 'devils' haunting her. Following rejections by publishers, the co-authors launched their own press. They named it Yatakhayaloon (They Imagine) or the League of Arabic SciFiers.[29] *HWJN* became a bestseller in Saudi Arabia after its publication in 2013. However, members of the religious police, the Committee for the Promotion of Virtue and the Prevention of Vice, entered bookshops and demanded that *HWJN* be taken off the shelves. According to Abbas, the work was seen as promoting sorcery, devil-worship and idolatry.[30] Although sales in the kingdom were subsequently allowed to proceed, Kuwait and Qatar imposed their own bans on the book.[31]

Elsewhere in the Muslim world, promoters of science fiction struggled against religious conservatives as well. In 2016, the Pakistani author Tehseen Baweja asked, 'How do you help somebody break free from the shackles of orthodoxy and conformity?' He acknowledged that 'This is a very real and deep-rooted problem in today's Pakistani society.' He lamented, 'we have taught ourselves to curb our imagination rather than let it run wild'. The author's contribution to a solution was to set up the Salam Award for Imaginative Fiction. Worth 500 dollars, it was named after the Pakistani physicist and Nobel laureate Abdus Salam.[32] While science fiction authors served as judges, two scientists were advisers. The first was Pervez Hoodbhoy, a nuclear scientist with a doctorate from the Massachusetts Institute of Technology. The second was Salman Hameed, an associate professor at Hampshire College, also in Massachusetts.[33]

[28] Al-Munajjid, '3324'.
[29] Al-Jeffery, 'Bridging'.
[30] Ian Campbell, 'Still a Better Love Story'; Morayef, 'Arab Science Fiction'.
[31] Fossett, 'Can Science Fiction'.
[32] Baweja, 'New Prize'.
[33] Baweja, 'Advisors'.

Tehseen Baweja saw science fiction as being in competition with religious literature and therefore attempted to exclude much of the latter from his own contest. 'I don't know if science fiction as a genre even exist for Pakistani readers', he wrote. 'When you go to book stores, you don't find any books other than religious ones or text books needed for school.' As a result, 'our Pakistani readers are deprived of a great source of intellectual stimulation that can definitely counter the ill effects of extremist doctrinations'.[34] Within the genre, the scope of the Salam Award for Imaginative Fiction was broad. According to the rules, 'anything from alien invasions to fantasy universes, and comic science fiction to dark fantasies is valid'. 'What's not acceptable though is religiously-oriented stories of good versus evil, stories that target a particular group/community, or stories that contain hate speech.'[35]

Baweja blamed not just religious conservatism, but also pointed to wider social and economic factors. 'We still don't encourage ourselves to think outside-the-box and don't sufficiently appreciate those around us that do so', he complained. 'We'd encourage a child who wants to become an engineer or doctor, more than a kid who wants to be, let's say, a video game designer.' Such a mindset might boost economic growth in the short term, but 'will impair our ability to innovate and lead', he warned. The writer thus called upon his society to 'start rewarding those who can let their imagination run wild'. It should 'embrace diversity rather than conformity'.[36]

While being aware of other pressures, Baweja and his advisers were still most concerned about religious intolerance and close-mindedness. The writer named his award after Abdus Salam not just in celebration of Pakistani scientific achievement; it was also a sign of protest against the persecution of the Ahmadiyya community, to which Abdus Salam had belonged.[37] Baweja further commended Pervez Hoodbhoy for 'highlighting the sad state of our education system that promotes orthodoxy and disincentivises unconventional thinking'.[38] Hoodbhoy himself argued that 'the insistence that religion must be brought into everything – including science – puts certain critical faculties to sleep'. He observed that children in Pakistan were often asked to reproduce facts without reasoning, thus learning science 'as though they were memorising a holy text'.[39]

[34] Baweja, 'Science Fiction'.
[35] Baweja, 'Rules'.
[36] Baweja, 'I Set up'.
[37] Baweja, 'New Prize'.
[38] Baweja, 'I Set up'.
[39] Hoodbhoy and Bigliardi, 'Science', 73–74.

Both opponents, like al-Munajjid, and proponents, such as Baweja, might give the impression that Islam was at odds with science fiction. However, the relationship was more complex. Although Saudi conservatives sought to ban the novel *HWJN*, the encounter of humans and jinn had been part of Islamic literature starting with the Qur'an itself. The Syrian artist Ayham Jabr also claimed to have been inspired by the tradition of his faith. 'We live in a religious world. And religion is the source of all fiction', he claimed. 'I was raised by surreal religious stories. And now they are stuck in my head.' He gave the examples of Muhammad's splitting of the Moon and his ascension to heaven, the staff of Moses transforming into a snake, and Jesus walking on water. 'Those used to be funny stories when I was a child', Jabr added.[40] He even went so far as to call the Qur'an 'the first work of SF'.[41]

The Qur'an does not just contain miraculous stories similar to fantasy novels. Beyond this, even strictly literal readings of the scripture seem to support the idea of the plurality of worlds, which has been the basis of much science fiction. Qur'an 1:2 translates as 'praise to God, lord of the worlds'. In total, the expression 'lord of the worlds' (*rabb al-ʿālamīn*) occurs forty-two times in the scripture. The word 'worlds' by itself appears seventy-three times altogether, but never in the singular. The specific form of the plural is intriguing too. The common plural of 'worlds' in Arabic is *ʿawālim*. The plural ending *–īn* in *ʿālamīn* is normally reserved for male humans. Examples include *muʾminīn* (believers), *banīn* (sons) or *nabīyīn* (prophets).[42] Therefore, *ʿālamīn* not only means 'worlds', but also suggests 'men'.

Of course, before the Copernican Revolution, most Muslims would not have understood the Qur'anic 'worlds' as planets. The combined influence of Aristotle and Ptolemy would have precluded a view of Earth as a sibling of Venus or Mars, all orbiting the same star. Instead, many Muslim scholars differentiated between an inferior, terrestrial and a superior, celestial world. They also distinguished a sphere of sensory perception from one of ideas. The intelligent inhabitants of these realms include jinn and angels in addition to humans.[43] Despite much exegetical effort, however, the word 'world' remained vague enough to allow for almost infinite interpretations. The philosophers al-Biruni and Ibn Sina and the poet Nizami Ganjavi were among many medieval

[40] Köhler, 'No One Bombs'.
[41] Grandjean, 'Les collages'.
[42] Calderini, '*Tafsīr*', 52.
[43] El-Zein, *Islam*.

figures who discussed the plurality of worlds.[44] Yet, they hardly exhausted the concept. Later writers thus found it easy to apply *ʿālam* to modern cosmology. In Taleb Omran's *The Search for Other Worlds*, for instance, an Arab spaceship passes by various planets and moons on its way to Alpha Centauri. This novel was part of a series of books that promised to 'take the reader to worlds in which reality is mixed with fiction, science with the hidden powers of man, and the reasonable with the unfamiliar'.[45]

As the Qur'an's opening chapter forms part of prayers,[46] the expression 'lord of the worlds' has been on the lips of many Muslims on a daily basis. However, other parts of the scripture allow for the imagination of extraterrestrial life too. Qur'an 42:29 means: 'And among His Signs is the creation of the heavens and the earth, and the living creatures that He has scattered through them.' This particular translation was the work of the Indian Abdullah Yusuf Ali and first published in the 1930s. His rendering formed the basis of an official Saudi edition printed in Medina five decades later. The editors had chosen Ali's translation for its 'choice of words close to the meaning of the original text, accompanied by scholarly notes and commentaries'. One of these footnotes by Ali reads: 'Life is not confined to our one little Planet. It is a very old speculation to imagine some life like human life on the planet Mars.' He continued, 'Though no scientific demonstration is possible, it is reasonable to suppose that Life in some form or other is scattered through some of the millions of heavenly bodies scattered through space. What a wonderful Sign of Allah! The Almighty Who created such countless beings has surely the power to bring them together.'[47]

Egyptian scientific and religious authorities agreed with such readings of the Qur'an. One expert in both areas was Muhammad Ghamrawy. His older brother Mahmud was a senior scholar at Cairo's al-Azhar Mosque,[48] one of the oldest centres of Islamic learning. Muhammad was very knowledgeable about scripture too. In the late 1920s, he contributed to *The Meaning of the Glorious Koran*. This English translation was authored by the British convert Marmaduke Pickthall and sponsored by the Nizam of Hyderabad in India. Following studies in England, Ghamrawy taught at Cairo's College of Medicine.[49] He combined his interests in science and religion by searching for natural knowledge within the sacred text.

[44] Hullmeine, 'Al-Bīrūnī'; Bausani, 'Niẓāmī di Gangia'.
[45] ʿUmrān, *Al-baḥth*.
[46] Muzaffar Iqbal, 'Islamic Theology', 217.
[47] Presidency of Islamic Researches, Ifta, Call and Guidance, *The Holy Qur-ān*, vi, 1484.
[48] Al-Baṭāwī, 'Muḥammad Aḥmad al-Ghamrāwī'.
[49] Pickthall, *The Meaning*, vii.

Verses about the plurality of worlds were part of what made Islamic scripture divine, according to Ghamrawy. In 1947, he published an article on 'Scientific Aspects of the Miracle of the Qur'an' in the magazine *Arrissalah* (The Message). He rejected the notion that the Qur'anic 'worlds' are the realms of the humans, jinn and angels or the kingdoms of plants and animals. When the text mentions 'seven heavens' and an equal number of earths, it does not mean different layers of our planet. Instead, Ghamrawy preferred the modern astronomical understanding that situates our planet within the solar system, and such systems within galaxies. The Egyptian referred his readers to *Worlds without End*, a book by the English Astronomer Royal, Harold Spencer Jones.[50] Ghamrawy's arguments were repeated in a book titled *Islam in the Age of Science*, which was published posthumously in 1973. Abd-el-Halim Mahmoud, the Grand Imam of al-Azhar, endorsed this book, praising the author in the foreword.[51]

Islamic authorities distant from Cairo and Medina similarly read the existence of extraterrestrial beings in the Qur'an. One of them was Mirza Tahir Ahmad, the fourth caliph and head of the Ahmadiyya. Following legislation against his community in Pakistan, he migrated to London in 1984. Three years later, he was invited to give a lecture on Islam at the University of Zurich. It resulted in a book on *Revelation, Rationality, Knowledge and Truth*, which included a chapter about 'The Quran and Extraterrestrial Life'. Ahmad's interpretation was less literal, but equally affirmative of the plurality of worlds. He translated parts of 65:12 as follows: 'Allah is He Who created seven heavens, and of the earth the like thereof.' This means that 'the universe comprises many units of heavens, each divided into groups of seven (a perfect number), each having at least one earth to it which will be supported by the entire system of that heaven (galaxy)'. As for 42:29, it 'speaks not only of the possibility of extraterrestrial life, but it categorically declares that it does exist'.[52]

Islamic scripture itself thus hardly constrained science fiction. Qur'anic verses were vague enough to allow for diverse visions of the universe. One example are the 'living creatures' (*dābbah*), which God has scattered through the heavens. To Abdullah Yusuf Ali, *dābbah* meant 'beasts, living crawling creatures of all kinds'. According to other commentators, the word denotes 'any sentient, corporeal being capable of spontaneous movement'.[53] Mirza Tahir Ahmad for

[50] Al-Ghamrāwī, 'Al-nāḥiyah al-ʿilmīyah'.
[51] Al-Ghamrāwī, *Al-Islām*.
[52] Mirza Tahir Ahmad, *Revelation*, 330–31.
[53] Mimouni and Guessoum, 'Islam'.

his part denied that the word could refer to swimming and flying animals, ghosts and spiritual life.[54] Overall, however, most scholars conceded the possibility that extraterrestrial life was intelligent. Perhaps the same was true for Muslims with little expertise in exegesis. In an interview for *Time* magazine in 1986, Hafez al-Assad spoke of his long-standing interest in unidentified flying objects. He was even able to imagine an 'extraterrestrial power' trying to solve Arab conflicts with Israel. The Syrian president expected such a power to be 'unbiased', in contrast to the United States. 'It should offer advice to both sides, not deal with guns, planes or billions of dollars.' And if it does, it should do so 'evenhandedly'.[55]

At various times, Muslims wondered not just whether aliens were fair, but also whether they shared their faith. 'Abd Allah ibn 'Abbas, one of the earliest exegetes, understood that the 'seven earths' each had their own prophets, including Adam, Abraham, Noah, Jesus and Muhammad.[56] In the twentieth century, this tradition was endorsed by the Pakistani scholar Abul A'la Maududi in his *Understanding the Qur'an.* Yet, he simultaneously promoted a more modern view of the universe. Commenting on 65:12, he wrote that 'the countless stars and planets seen in the sky are not all lying desolate, but like the earth there are many among them which are inhabited'.[57] However, unless other worlds are largely identical to ours, imagining Islam on them is not straightforward. Important practices seem to have been designed specifically for humans on Earth. A pilgrimage to Mecca from a distant planetary system could be challenging, as would be determining the location of the Kaaba and thus the direction of daily prayers. How would Muslims light years away be able to observe the phases of the Moon and thus the beginning and end of the month of Ramadan? Long rotation periods of some planets might also make fasting from sunrise to sunset seem impossible.[58]

Nevertheless, such challenges perhaps inspired Muslim imaginations more than constrained them. Solutions to problems of Islamic living in outer space already emerged in the context of humans venturing into low Earth orbit. When Malaysia sent its first astronaut to the International Space Station in 2007, its Department of Islamic Development issued guidelines on praying, fasting and disposing dead bodies in the new environment.[59] The space programme of the

[54] Mirza Tahir Ahmad, *Revelation*, 331.
[55] Time, 'An Interview'.
[56] Mimouni and Guessoum, 'Islam'.
[57] Maududi, '65. Surah At Talaq'.
[58] Weintraub, *Religions*, 161–68.
[59] Zook, 'Making Space'.

United Arab Emirates in the 2010s generated similar thought. In preparation for the Hope Mars Mission, the Mohammed bin Rashid Space Centre in Dubai began publishing the children's magazine *Red Planet* in 2016. It featured a comic about an 'alien encounter' between the Emirati astronaut Aisha and purple, one-eyed creatures named Areen and Lameeka. More for adults was an article by the British writer Shelina Janmohamed in the Abu Dhabi newspaper *The National* in 2018. It bore the title 'From Mosques on Mars to Meeting Martians: The Dilemmas awaiting Muslims in Space'. Janmohamed envisaged that human colonists on the red planet use 3D printing to build 'mosques with rotating prayer spaces that constantly adjust themselves to remain pointed at Makkah'.[60]

Although some questions about extraterrestrial life seem distant and abstract, they were on the minds of not just writers, but also of senior officials. The Malaysian astrophysicist Mazlan Othman was one of them. In 1999, she was appointed director of the United Nations Office for Outer Space Affairs (UNOOSA) in Vienna. Three years later, she became director general of Malaysia's National Space Agency. After the successful mission of her country's first astronaut, she returned to UNOOSA. In 2010, various media described her as a possible contact person for aliens who arrive on Earth and ask, 'take me to your leader'. Othman was quick to deny that she had been chosen for such a role.[61] However, she did state that 'the United Nations forums are a ready-made mechanism' for a coordinated response to alien signals.[62]

Despite not being known as a science fiction writer herself, Othman was similarly imaginative of extraterrestrial life as Taleb Omran. 'On our own Earth, bacteria, single-cell life has been found in the vents of volcanoes, under the ice in Antarctica', she said in 2011. 'Even if the other planets have harsh environments, there could still be life.' She cautioned against the idea that such life forms necessarily have hands, legs or eyes. 'Can you imagine a situation where life has evolved so much that life exists only in an energy form?' she asked. Such organisms would not need to understand 'any particular language' in order to communicate with earthlings. Instead, they could 'read your brain waves'.[63]

The Malaysian astrophysicist recognized religious implications of contact with extraterrestrial life, even if she preferred to talk in more general rather than specifically Islamic terms. Othman explained, 'philosophically, scientifically,

[60] Janmohamed, 'From Mosques'.
[61] Weaver, 'UN Plan'.
[62] Othman, 'Supra-Earth Affairs', 699.
[63] UN News Centre, 'Interview'.