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Arabic Science Fiction

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Before exploring the origins, history, and development of Arabic SF (ASF), it is essential to understand that Arabic literature, especially SF, has very different conceptions, implications, and conditions of production than mass-market Western literature. The marketplace is quite different, the understanding of the function of literature is quite different, and the very language used in literature differs from its Western counterpart(s). This is not to say that the two discourses are diametrically opposed; nevertheless, literature and its production and reception are significantly different, to the extent that scholars of Western SF will be well-served by information that may seem redundant or its presentation reductive to specialists in Arabic literature. ASF has source texts and discourses within Arabic literature and philosophy in much the same way that different definitions of Western SF reveal source texts in the Classical and Renaissance periods after the seventeenth century. Much of this chapter will use as a springboard for closer readings of a group of these source texts the work of Ada Barbaro, who enumerates these sources and provides context to indicate why they deserve inclusion as proto-ASF.

“Science Fiction” in Arabic

In twenty-first century literary discourse, Arabic uses the phrase \( \text{al-khay\=al al-\textquoteleft ilmi} \) to denote “science fiction.” This is a neologism of relatively recent vintage, dating only from the 1970s and still not always well understood by the general Arabic-speaking public. Its clearest rendering into English is
“the scientific imaginary.” This translation, however, is not unproblematic, especially with respect to slippage around the word ‘ilmi between rational and mystical discourse. It is notoriously difficult to translate freely between Arabic and English without losing desired nuance or gaining undesired implications: as was noted in the introduction, the word for “tradition” has a much stronger sense of compulsion than do the Latin roots of its English counterpart. Arabic and other Semitic languages organize words rather differently from English and other Indo-European tongues. Each word native to the language has a root of three letters: words with the same root have similar meanings. The arrangement of vowels and other consonants between and around the root letters provides the syntax of the word. For example, the root k-t-b means “to write”: kataba is “he wrote,” ’aktub is “I write,” al-kitāb is “the book,” al-kātib is “the writer,” al-kitāba “the act of writing,” maktūb “written,” etc. The use of “imaginary” or “fiction” for al-khayl is more or less clear: khayl comes from the root kh-y-l, which means “to imagine, fancy, suppose,” and thus is a largely accurate and widely accepted gloss for English fiction, which comes from Latin fingere, “to form, contrive.” Yet the word khayl itself means “spirit, ghost, apparition, phantasm, fantasy, chimera, vision, trace” in addition to translating the literary term fiction (Cowan, p. 268). Thus, the word has a nuance that is downplayed in English, where fiction has the implication of something created more or less purposefully by human hands or minds: the Arabic word more fully emphasizes an otherworldly nature of fiction as something outside normal reality.

The word ‘ilmi is a less limpid translation for “scientific.” Its noun ‘ilm and many other words come from the ‘-l-m root, “to know, perceive, learn,” which in itself appears relatively unproblematic until we consider what it is that’s known, perceived or learned. The world

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1 A minority have four letters. These most often represent onomatopoeia or words borrowed from other languages: in the classical period, Greek, Persian and Sanskrit or other Indian tongues; in the modern period, English or other European languages.

2 There are many exceptions to this, often due to links to classical poetry or gradual shifts over time; but except when noted these aren’t germane to this study.

3 The character ‘represents the Arabic letter ‘ayn, which has no equivalent in European languages. In technical terms, ‘ayn is a voiced pharyngeal fricative: a cross between a gulp and a gag, pronounced much lower in the throat than the hamza or standard glottal stop, here represented by the’ character. Modern speakers of Arabic often use the number 3 to transliterate ‘ayn, and the 2 for hamza, because the Arabic characters resemble those numbers; regrettably, academia has yet to catch up to this very useful innovation.
‘ilm does indeed mean “science”: ‘ilm al-fālak is “astronomy,” ‘ilm al-ījtimāʿ “sociology,” its plural ‘ulām is used for “political science,” etc. But ‘ilm also means religious knowledge, not just secular scientific knowledge. An ‘ālim is a “know-er,” a “scholar,” but without context, this person could be wearing a white robe and reading a commentary on the Qur’ān, or wearing a white lab coat and reading a scientific journal. The plural of ‘ālim is ‘ulām, ‘usually rendered into English as “ulema” and in this context nearly always denoting theologians or religious scholars rather than scientists (Cowan, pp. 635–637). Any well-written Arabic work will have sufficient context to make clear whether the word ‘ilm denotes a “scientific” that is secular or one that is religious; the problem with the phrase al-khayāl al-‘ilmi, however, is that used by itself it lacks such context. A native speaker of Arabic, therefore, one not familiar with science fiction—which it must be remembered is a comparatively new discourse in Arabic literature—might consider parsing the phrase as denoting some kind of rigorous or organized study of phantoms or spirits, especially since such studies exist in the sort of Islamic discourse covered by ‘ilm. If we consider Roberts’ definition of SF as privileging a rational framing of the world over a mystical one, the Arabic phrase al-khayāl al-‘ilmi becomes less, not more, clear as a rendering of “science fiction”: the mystical framing is always already present within the very words. This is in no way to claim that ASF is always already mystical or fantastic; on the contrary, the novels examined in this study are all clearly recognizable as SF. In Arabic and to Arabs, the name of the genre has different linguistic implications than its English counterpart; the gap between it and “science fiction” can be exaggerated by the many readers as yet unfamiliar with the genre or its name, especially during the genre’s formative period.

**The Origins of SF in Arabic**

Ada Barbaro, in her study *La fantascienza nella letteratura araba*, finds the roots of ASF both in translations from Western SF and in four genres of classical and medieval Arabic literature: ‘ajā‘ib or mirabilia; philosophical works that use voyages or unusual places or situations as a means of posing an argument; adventure voyages, such as those of Sindibād in the *1001 Nights*; and the Arab/Muslim utopian tradition. She also touches upon manuals for creating technological marvels. She argues that it’s largely impossible to precise a date for the first appearance
of SF in Arabic literature, for reasons similar to the difficulty of giving a precise date in Western SF. Barbaro cites critic Muḥammad ‘Azzām, who says that earlier Arab writers imagined various wonders such as giants or spaceships: “When science arrived, these dreams were realized; then, atomic energy became stronger than any giant, [and] airplanes approached the velocity of spaceships” (‘Azzām, p. 7). ASF, in ‘Azzām’s view, took modern science and applied it, retroactively, to the fantasies of the past. When scientific and technological development caught up to fantasy, SF was born. This is especially relevant in the case of Arabic literature, which not only has a vast and rich tradition of fantastical works, but also uses fantasy or what might be called proto-SF as a means of grounding the cognitive nature of creation in the theology and philosophy of its time. Let us also keep in mind that grounding ASF in these fantastical texts from earlier periods has the additional effect of reinforcing the “Arabness” of what is in its initial decades a clearly imported discourse.

‘Ajā’ib or Mirabilia Literature

‘Ajā’ib literature is a genre of both Arabic and Persian literature, mostly dedicated to geography and cosmology, “with an emphasis on those real or imaginary phenomena in the physical world which challenged human understanding” (Meisami and Starkey, p. 65). These phenomena include human-made and natural monuments, folktales, and descriptions of fantastic animal and humanoid creatures; these last are often presented as tales brought back by mariners, reflecting the vast growth in Indian Ocean trade during the initial centuries of Islam. Travis Zadeh argues that “The strong current of storytelling prevalent throughout the various configurations of ‘ajā’ib builds on an ancient inquisitiveness and curiosity for the foreign and remote” (Zadeh, p. 23). The word ‘ajā’ib, a plural noun, comes from the root for “to [be] astonished, to wonder, to [take] delight,” so mirabilia is a very apt translation of the word. Zadeh traces the genre back to Classical Greece, especially in its presentation of animal life and the strange stories often attached to certain animals: Aristotle’s biology leads to paradoxography, “an encyclopaedic tradition of pseudo-scientific writing on the strange and exotic” (Zadeh, p. 23), thence to the ninth century CE polymath al-Jāḥiẓ, who introduced Islamic tropes to the genre.
Mature ‘ajāʾīb literature weaves together Greek learning, Islamic studies and folklore; it diverges from traditional Arabic geographical writing in the tenth century by emphasizing the mythical content already present in such literature. By the twelfth century, the mythical content and more factual strain of geographical writing had merged again (Zadeh, p. 66). The text Barbaro and others cite as most representational is from the thirteenth century: Zākāriya ibn Muḥammad al-Qazwīnī’s ‘Ajāʾīb al-Makhlūqūt wa-Gharāʾīb al-Mawjūdūt [“Wonders of Creation and Oddities of Existence”], usually referred to in English, into which it has not been translated, as Wonders of Creation, and which takes much from a twelfth-century Persian text and borrows from earlier sources. Syrinx von Hees summarizes Wonders of Creation as an encyclopedia of natural history:

In a systematic fashion it catalogues and describes all natural phenomena: those existing in the supralunar part of the world, i.e., planets, constellations and angels as inhabitants of the heavens, followed by the sublunar phenomena, ordered according to the four elements. The major part of the book deals with a catalogue and description of the three natural kingdoms, mineral, vegetable and animal. (von Hees, p. 101)

For Barbaro, working from the work of Roger Caillois, the inclusion of imaginary or allegedly real cities and places in the mariners’ tales is the key feature in viewing ‘ajāʾīb literature as a precursor to SF: the sense of wonder in hearing about these locales is analogous to that produced by reading SF texts about worlds distant in space or time. These cities at the far ends of trade routes in ‘ajāʾīb literature become faraway worlds, once twentieth-century technology enables Arab writers to extrapolate those worlds as cognitively plausible. She writes:

This brief nod to ‘ajāʾīb literature as an antecedent to SF production only remains appropriate if the eventual suggestion of the modern SF novel is reduced to the recovery, in this tradition, of the sense of the miraculous in itself, of the amazement that also belongs to the fantastic: they both share a “privileged kingdom, an uncultivated zone of the imagination” that allows reality to be better lived when, facing the excessive progress toward SF, “will have absorbed the dream or confirmed the fear that these (the fantastic and the miraculous) will now have abandoned their duty
to remedy some unsatisfied need or to appease some burning disquiet” (Barbaro, p. 32).

To the extent that SF recovers this sense of the miraculous, it can be traced back to a genre like ‘ajā’ib literature. In an age where the cognitive has begun to dominate, the other worlds and times created in SF can take the place of the other lands in the mariners’ tales in Wonders of Creation. The estrangement function of SF can take the place of Barbaro’s take on Caillois’ remedy for the unsatisfied need by reframing a problematic aspect of the reader’s world.

Barbaro’s very brief argument about ‘ajā’ib literature, however, creates a clear barrier between it and modern SF, and thereby implicitly frames Wonders of Creation and other works as being entirely about the fantastic and marvelous. The link between the two is essentially analogical, in that SF uses the cognitive to replace the fantastic in the earlier genre. But both in general and in the specific case of Wonders of Creation, the purpose of placing the fantastic tales among the geographical details in ‘ajā’ib literature was to reinforce the cognitive. This may seem counterintuitive, but this is only because the contemporary Western understanding of the cognitively plausible is rather different from that of the Muslim world eight centuries ago: in von Hees’ words, “the scientific and epistemological standards of medieval natural history are fundamentally different from those of modern science” (von Hees, p. 105). Zadeh argues that authors such as Qazwīnī:

…use the rubric of ‘ajā’ib to classify the vertiginous diversity of creation. Here frightening accounts of dog-headed men and fierce Amazon women share room with detailed descriptions of the movement of the heavenly spheres and the medicinal qualities of plants, all unified by a single concern for the marvels of existence. Much of the material contained in these works represents established scientific knowledge as attested by trusted authorities concerning the nature of God’s creation. (Zadeh, p. 24)

Within the broader context of medieval Islamic theology, the inclusion of the fantastic with the clearly rational is intended to expand the reader’s awareness of the complexity and depth of creation. Medieval Islamic theology clearly and consistently conceived of the universe as rational

4 She is quoting Caillois.
and cognitively plausible: not entirely beyond human understanding, though it would take more than a human lifetime to comprehend it. Contemplation of creation, moreover, including proto-scientific examination thereof, is an essential aspect of becoming closer to the divine. Qazwīnī himself states that contemplating the fantastic and investigating its causes is directly in line with this tradition. He writes in his introduction:

Wonder [‘ajab, whence ‘ajā‘īb] is a confusion a person is subjected to from its lack of knowledge of the cause of a thing or of how [a thing] is influenced. A person, in seeing an empty beehive, will be confused from lack of knowledge; if it’s known that it’s the work of bees, they will also be confused, because this demonstrates that weak animal [can] create these equal-sided hexagons with expertise that no engineer can emulate with compass and ruler. And from where do they get this wax that they use to build their identical houses, that do not differ one from the other, as if spread from a single mold? From where do they get the honey in which they lay down their winter stores? How do they know that winter is coming and that they will lose their food sources? How do they figure out to cover the honey stores with a light coat of wax to keep out dust and air?

(Qazwīnī, pp. 9–10)

These phenomena inspire wonder, which inspires the desire to ascertain their causes, and from there, further contemplation of creation. Specifically, the wonder Qazwīnī intends to evoke is that of “the feeling of amazement, which they used to have as children, but lost as they grew accustomed to the surrounding natural phenomena” (von Hees, p. 106). The example of the bee goes all the way back to the Qur’ān⁵; this serves to further link the passage, as well as Qazwīnī’s inclusion of the fantastic with the mundane, to the role of reason and exploration in his milieu. Zadeh shows how the vocabulary Qazwīnī uses to express this belief has

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⁵“And your lord taught the bee to build its cells in hills, on trees, and in human habitations, then to eat all the produce of the earth, and follow the ways of the lord unerringly. There issues from within their bodies a drink of varying colors, wherein is healing for people. Verily in this is a sign for those who give thought.” Qur’ān 16:68–69. The title of the sūra or chapter is “The Bee”: its initial subject is the provision of natural phenomena that humans can understand and benefit from, in order that they understand divine unity and glory.
its root, like much else in medieval Islamic theology, in Greek logic and metaphysics:

For al-Qazwīni, speculation (naẓar) ultimately bears a theological dimension, which he aligns with a scientific pursuit of discovering the order of the natural world, based on an implicit teleological argument from design for the proof of God, as reflected through the marvels of creation... By setting in motion a broader theological framework concerning creation, al-Qazwīni goes on to affirm that contemplation of the wonders of existence brings both pleasure in this world... and happiness in the next... In this schema, the more that one contemplates marvelous phenomena, the closer one comes to God. (Zadeh, pp. 29–30)

The link between the fantastic and devotion lies in the pleasure of reading: marvelous tales encourage further reading, and contemplation of how the marvelous might have come to pass leads to greater understanding of creation. Roy Mottahedeh argues that medieval lexicographers understood the “wonder” in worlds sharing the root of ‘ajāʿīb to stem from the person’s ignorance of the cause of the phenomenon in question (Mottahedeh, p. 30), and since all cause ultimately derives from the divine, a pious reader should then undertake investigation.

Barbaro is correct that ‘ajāʿīb literature can serve as a type of proto-SF in Arabic literature, because SF can substitute for the fantastic in providing estrangement. Her conclusion is correct for another reason: that while it may be difficult for us to understand the dog-headed men and fierce Amazon women of al-Qazwīni’s text as fundamentally cognitive in nature, to medieval Islamic minds they were exactly that, not only in their proof of the complexity of a fundamentally cognitive creation, but also in their function of encouraging readers to further explore that creation. The mere presence of what is to modern Westerners the clearly fantastic should not prevent us from considering ‘ajāʿīb literature a precursor to ASF. Von Hees muddies the waters by arguing at length, and persuasively, that the notion of ‘ajāʿīb literature as a genre is highly problematic and largely an invention of scholars around the turn of the twentieth century; these works are linked only by having the word ‘ajāʿīb in their titles. Each work ought more to be regarded as belonging to a separate (sub-)genre of literature (von Hees, pp. 112–113). Nevertheless, Wonders of Creation and similar works are clearly focused on the cognitive in their attempts to deliver the strange.
Cognitive Estrangement in Medieval Philosophical Texts

Barbaro next moves to the work of philosophical speculation by the Andalusian philosopher Ibn Ṭufayl (1105–1185 CE), *Risālat Ḥayy ibn Yaẓān fī ʾArwār -l-Hikma -l-Mashriqiya*. The title translates as “The Treatise of Alive, Son of Awake, on the Secrets of Eastern Wisdom,” but while the work has been translated into English, it typically retains the Arabic title *Ḥayy ibn Yaẓān*. It was translated into Latin in 1671 as *Philosophus Autodidactus*, “The Self-Taught Philosopher,” and was widely read in Europe, becoming for Samar Attar “one of the most important books that heralded the Scientific Revolution” (Attar, p. 67). *Ḥayy ibn Yaẓān* is sometimes claimed to be “the first Arabic novel,” but this is anachronistic: while it does have many features in common with the modern novel, such as a consistent world of its own and an ongoing narrative, it’s primarily a philosophical and theological argument in the form of a thought experiment.

The story of *Ḥayy ibn Yaẓān* centers on what would come to be called the tabula rasa in European thought: an infant boy is washed ashore on an uninhabited island and raised by animals far from human culture. The boy, Ḥayy, uses observation and logic to draw from his surroundings a rational and complete understanding of his environment. Once the boy is grown, a man, Asal, from the next island over, which is urbanized and inhabited by Muslims, finds him and brings him to the city to engage in conversation with him. This man finds that the castaway has already come to understand through only his contact with nature the principles of a certain philosophical strain of Islamic theology, specifically that of the soul and its delinkage from the body. Asal brings Ḥayy to his urban society, where Ḥayy quickly finds that most people are not ready for his advanced, abstract, mystical theology. Barbaro links both the narrative and the philosophy of *Ḥayy ibn Yaẓān* to modern SF, arguing that:

> From a strictly SF point of view, the work appears to prefigure one of the themes that will then be explored in SF novels: the idea of a perfect person who can bypass the normal laws of nature and arrive at a supreme knowledge. (Barbaro, p. 33)

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6 Often “Absal”, see Corbin, p. 240.
It would be more accurate to replace the word “nature” in the above citation with “human culture,” as strictly speaking no natural laws are bypassed in *Hayy ibn Yaqzān*. In the work, the infant boy is suckled by a doe, which is certainly wildly improbable, but in light of the position of the marvelous in *Wonders of Creation* and other works of ‘ajā’īb literature, it’s in no way anticognitive by the standards of its time and place. The rest of the work is entirely cognitively plausible; moreover, estrangement is clearly in place even in such a brief plot summary as the one above. The two islands are mirror images of each other; the state of nature on the first island estranges the human culture on the second. The only real difference between *Hayy ibn Yaqzān* and a modern SF novel(а) is that it confirms rather than critiques the dominant culture.

Other scholars have noted the structural similarity between *Hayy ibn Yaqzān* and other works of proto-SF, most notably *Gulliver’s Travels* and *Robinson Crusoe*. A. C. R. Pastor argues that the common features between Defoe’s work and that of Ibn Ṭufayl indicate that the latter provided the idea for the former (Novak, p. 311), while Thomas A. Lamont goes into depth to problematize the ease with which Pastor can make such a claim: while many of the superficial details are similar, the relationships in the two stories are quite different (Lamont, pp. 172–173). Single men (never women) alone in a struggle against nature make for a common trope in modern Western SF, most recently in *The Martian* (2015). But if we focus on culture rather than nature, as *Hayy ibn Yaqzān* clearly does, a closer analogue is Robert A. Heinlein’s *Stranger in a Strange Land* (1961), whose protagonist is a tabula rasa with respect to human culture and whose perspective critiques (Western) culture through estrangement.

The details of the philosophical debate underlying *Hayy ibn Yaqzān* are well beyond the scope of this study, but its outline is worth noting as a means of further confirming the work’s status as a precursor to SF in Arabic. Ibn Ṭufayl took the title of the work and the names of the central characters from a short work by Ibn Sīna [Avicenna] (980–1037 CE), the Persian polymath and a towering figure in both philosophy and medicine. Avicenna’s work, part of a strain in his œuvre wherein

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7 It’s quite short, barely even novella-length, unlike *Wonders of Creation*, which as befits an encyclopedia is hundreds of pages long.

8 The first translation of *Hayy ibn Yaqzān* into English appeared in 1708, just a decade before Defoe published *Robinson Crusoe*. 

philosophical discourse is made more elusive as a means of echoing the soul’s vision or aspiration (Fakhry, p. 161), tells the tale of a wise adult undertaking an allegorical journey; the adult is himself an allegory of the intellect (Montada, p. 165). A very reductive summary of the argument laid out in Ibn Ṭufayl’s version of Ḥayy ibn Yaqẓān is that it’s a means of reconciling Avicenna’s rational philosophy with the critique thereof by the equally influential Persian theologian al-Ghazāli (c. 1058–1111 CE). Ghazāli argued forcefully against many of Avicenna’s doctrines and more generally against his skepticism and Aristotelian logic, on the principle that they contradict Islamic religious belief: Avicenna’s soul as separate from the body is particularly problematic because it calls into question bodily resurrection, a central tenet of the faith from its inception (Marmura, pp. 144–145). Ibn Ṭufayl has his protagonist approach some of these issues from both positions and shows that the consequences of both positions are the same (Montada, pp. 170–171). Again, as with al-Qazwīnī’s work, creation is fundamentally rational and cognitive: Ḥayy ibn Yaqẓān is intended to show us that inductive reasoning will lead us to the same point as theological study.

Ibn Ṭufayl uses the estrangement created by having Ḥayy grow up ignorant of human culture for the purpose of social criticism in the last sections of the text. Asal brings Ḥayy back to his own populated island, where he tries, and fails, to teach his sacred wisdom to Asal’s friends:

And afterwards, taking a view of the several ranks and orders of men, [Ḥayy] perceived that every sort of them placed their delight in those things which they possessed at present, and that their appetites were their god, and that they lost themselves in gathering up the crumbs of this world; and that the desire of getting more kept them employed till they

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9 The argument is in many ways primarily political, having to do with the status of rational philosophy in the courts of the very conservative Almohad caliphs.

10 It should be noted that there’s a strain of criticism of Ḥayy ibn Yaqẓān that addresses Sufi (Islamic mysticism) influences in both Ibn Ṭufayl’s and al-Ghazāli’s work. Sufism was in Ibn Ṭufayl’s time on the rise in Andalusia and had a complex and sometimes adversarial relationship with the Sunni Almohads. Hourani, for example, argues that the mystical union that Ḥayy reaches before he meets Asal is the point of Ibn Ṭufayl’s work (pp. 42–46). Corbin (pp. 241–242) argues that what we might see as the estrangement function of the text does not critique society’s lack of rationality, but rather its inability to perceive the spiritual truth behind their religion. None of this, however, prevents us from considering the proto-SF elements of the text.
came to their graves, and that all good counsel was lost upon them. (Ibn Ṭūfayl, pp. 172–173)

Their material concerns have blinded and deafened them to the appeal of the true, and not incidentally rational, faith. Hayy’s perspective estranges this criticism of the material getting in the way of the spiritual: there’s a line, though undoubtedly not a straight or direct one, between this, through the Renaissance and Enlightenment-era European texts it influenced, all the way down to Stranger in a Strange Land, whose protagonist’s advanced spirituality and its contrast with a materialist society draped in the trappings of religion is the central conflict of the novel.

Barbaro mentions other medieval philosophical texts as having a similar indirect influence on what would later come to be ASF. Ibn al-Nafīs (1213–1285 CE) wrote in the 1270s al-Risāla al-Kāmilīya fi l-Sīra al-Nabawiya [“The Treatise of Kāmil on the Prophet’s Biography”],11 translated into Latin as Theologus Autodidactus, which title it typically retains in English. Ibn al-Nafīs is primarily known as a physician—he is generally credited with the discovery of pulmonary circulation—but like many of the great figures of medieval Islamic culture, he also wrote about theology. Theologus Autodidactus starts off with a very similar premise to that of Hayy ibn Yaqzan, where its protagonist Kāmil is spontaneously generated on his desert island as a young adolescent rather than shipwrecked there as an infant. He learns from his environment and uses his observations to induce the perfect society, which is almost exactly identical to Ibn al-Nafīs’ own society. The two texts diverge as they continue: most notably, the visit to human society is brief and soon forgotten in Ibn al-Nafīs’ work, which ends with the near-destruction of that society at the hands of barbarian invaders.

For Barbaro, the text contains a number of proto-SF elements: spontaneous generation, futurology, resurrection, afterlife. These “represent an attempt on the part of the author to explain these ideas in reference to the known scientific data of his epoch” (Barbaro, p. 34). For the book’s translators, the primary difference between Theologus Autodidactus and Hayy ibn Yaqzan is that:

11 The name Kāmil means “complete” or “perfect”, so the title takes on the ring of “the perfect treatise”, as well.
Ibn Ṭufayl wants to establish the fundamental accord between traditional religion, fit for the masses, and philosophical mysticism, reserved for the elite, at the same time claiming pre-eminence for this last; Ibn al-Nafīs, writing here as an Islamic theologian, intends to prove not only, in the first place, the reasonableness of the main tenets of Islamic religious sciences, but also the appropriateness of the historical incidents in the life of the Prophet, and of the history and the actual situation of the Muhammadan community. (Meyerhof and Schacht, p. 32)

The details of the theological argument do not concern us so much as does its grounding in observation, experimentation and induction. Like its predecessor, Theologus Autodidactus approaches the world as fundamentally cognitive in nature, approachable via human reason.

When Ibn al-Nafīs published his work, the Mongol conquest of Baghdad in 1258 was still in the very recent past; the thought of further catastrophe surely occupied many minds in Cairo. The doomsday narrative at the end of the text, where an invasion from without nearly destroys the society portrayed therein, may appear to have SF elements, in that a modern reader unaware of the devastation caused by the Mongol invasions may think this section a thought experiment or flight of fancy, but this is not the case. Rather, to the extent that Ibn al-Nafīs’ work has SF elements, they arise in this section through the estrangement of the actual Mongol invasions by means of the cognitive, for its time and place, thought experiment of Kāmil himself. Marco Lauri frames Ibn al-Nafīs’s text as a response to the catastrophe wrought upon the Muslim world by the Mongol invasions:

It has been observed that Muslim historical writing of the subsequent ages did not find a way to express the disaster; it was beyond its ability to understand it rhetorically. The event was without explanation—it could barely be told. What Ibn al-Nafīs tried to do was offer a rhetorical construct where the cataclysm could be put in understandable, significant terms. It had to acquire a meaning within the broader meaning of human and Islamic history as he conceived it. (Lauri, pp. 35–36, italics in original)

Ibn al-Nafīs frames the catastrophe, in which half of the Muslim world, including its ancient capital Baghdad, was conquered, pillaged, and placed under the authority of infidel invaders, in rational terms, as something predictable through induction first of the principles of the ideal
society, then of the weak points of that society. He creates a logical progression of events:

As this prophet had prohibited the drinking of wine, and the appearance of women in public in the presence of strangers, because jealousy is a noble and praiseworthy quality, two consequences were inevitable: firstly, the transgression of the prohibition of wine, because the soul strongly desires it... secondly, an increase of homosexuality in his community, because many people were unable to marry at all or to take their wives with them when travelling...  

It was inevitable that those sins should be punished... This punishment could only be by bloodshed, and this had to be done by way of attack from infidels, as internal political strife within the community would not have provoked penitence and reform...

These infidels cannot occupy the whole of the countries of Islam, because this would lead to the destruction of this religion, but only some... After occupying them, they should abstain from provoking a change of religion there, because they themselves have no religion; on the contrary, they should feel inclined to adopt this religion and to be counted among its adherents, and not only their original countries but the countries of other infidels which they might conquer should be added to the area of this religion, and therefore this religion should spread... (Meyerhof and Schacht, pp. 65–67)

The text of Theologus Autodidactus frames the invasions as the logical, predictable consequence of sin, which it has already framed as the logical, predictable consequences of the rules laid down in the predictable perfect society. Ibn al-Nafis continues by predicting the future, correctly, when he has Kāmil claim that the invaders would ultimately adopt Islam and spread the religion farther afield. Using cognition, he estranges the situation in which worried residents of Cairo found themselves in the 1270s and makes it seem like a natural consequence and ultimately an extension of their perfect society. Barbaro argues persuasively that Theologus Autodidactus contains SF elements, but the grounding of the text in SF goes beyond the mere assemblage of elements. The work gives us a recognizable example of cognitive estrangement, if we accept that spontaneous generation of adolescents is “cognitive,” which

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12 A meaningful discussion of the complex and often ambivalent status of (male) homosexuality in the medieval Islamic world is well outside the scope of this study.
our examination of *Hayy ibn Yaqẓān* has enabled us to understand that it was, in the parlance of the time. It is anachronistic to say that Ibn al-Nafīs wrote SF, but it’s also undeniable that for an Arab writer looking to ground the discourse of Western SF in their own literary traditions, *Theologus Autodidactus* is a clear precursor text.

Barbaro touches upon several other texts, most notably *Risālat al-Ghufrān* [“The Epistle of Forgiveness”] by the Syrian poet Abu-l-‘Alā al-Ma‘arri (973–1057 CE), in which the poet undertakes a voyage to paradise and interacts with the spirits of various figures from the past. This prefigures Dante, and while it’s not cognitive, it certainly makes use of estrangement. Among the people the poet meets in paradise are pagan poets from the pre-Islamic era: this estranges the received religious doctrine of the day, which stated that pagans could not achieve salvation.13

### SF Elements in the 1001 Nights

Barbaro also addresses the existence of proto-SF elements in folktales and popular literature, of which *’Alf Layla wa-Layla*, the 1001 Nights or *Arabian Nights*, is the example likely most familiar to Western readers. In these and other tales, the fantastic are often mixed with historical details, thereby lending credibility to the fantastic elements: “it is therefore easy to guess how a folktale substrate so full of fantastic-miraculous references lends itself very well to a proto-SF interpretation” (Barbaro, p. 37). While many such stories are clearly fantastical, representing what Barbaro, channeling ‘Azzām and Roger Caillois, identifies as humankind not yet having learned to dominate nature, others show us something closer to the use of technology to control aspects of nature and thus closer to proto-SF.

The frame narrative of the *Nights* consists of the crafty Shahrazād telling stories as a means of deferring the misogynist king Shahriyār from killing her and continuing to kill women: the stories themselves are nested and looped, and often involve characters telling stories in order to defer their own deaths. The stories accreted over time:

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13 This estrangement makes more sense when we take into account the close relationship between the poetics of the Qur’ān and that of the pagan poetry from its period: al-Ma‘arri is essentially arguing that the dominant theology of his time is willing to accept the poetic relationship but unwilling to allow these same poets a measure of credit in the religious sphere.
Medieval Arab authors acknowledged Persian story-collections, most notably the *Hazār afšāna* (Thousand Tales) as the immediate source of the *Nights*; but many other cultures also contributed to the formation of the various Arabic texts known collectively as ‘Alf layla wa-layla: Indian, Persian, Baghdadi and Cairene. Each ‘stratum’ corresponds to a deposit of stories reflecting the influence on the *Nights* of a given society and geographical locale during a particular historical period. (Meisami and Starkey, p. 69)

Barbaro mentions several of the stories as pertinent to a discussion of how modern ASF might root itself in the classical traditions. Many of the other tales of the *Nights* involve estrangement: most notably, those stories that involve rulers reframe the rulers, the act of ruling and the principles behind just rule. When the caliph Hārūn al-Rashīd disguises himself to wander Baghdad and listen to his subjects, he is forced to accept being treated as an ordinary person, lest he reveal his status (and vulnerability). Other stories take rulers famous for a particular attribute and place them in a situation where that attribute is challenged. In both sorts of stories, the remoteness of the elite and powerful from the typical audience for the *Nights* is estranged by forcing the powerful into situations where they are comparatively powerless; this both humanizes them and estranges the perceived naturalness or legitimacy of their power. Even those stories that involve the clearly fantastical, estrangement is possible: Robert Irwin writes that such a story:

...may have been a wonderful piece of nonsense designed to enthrall an audience of children, yet, at the same time, the adults listening to the same story could recognize social facts and aspects of everyday reality. There were, after all, practising sorcerers, alchemists and treasure-hunters in medieval Baghdad and Cairo. (Irwin, p. 180)

As with *Wonders of Creation* or Ḥayy ibn Yaẓān, we must accept that what is to us clearly noncognitive content would have been understood differently, as proof of the majesty of creation. So while the following stories Barbaro mentions may seem less than persuasive as examples of, or even hints toward, cognitive estrangement, we ought to view them from within their own literary tradition. Barbaro first mentions “The Story of the Third Dervish Qalandar,” in which its narrator’s ship is destroyed by the Magnetic Mountain:
…we reached the mountain of black magnetic rocks; the waves drove us alongside, and all the thousands of nails on our ten ships were suddenly wrenched away and flew to join themselves to the mountain. The ships opened out and fell asunder, and we were thrown into the sea.

This is undeniably based on cognition, though there’s little in the way of estrangement in the story, whose primary narrative concerns the inexorability of destiny even in the face of extreme measures taken to prevent its fulfillment. The basic principles of magnetism were well-known in medieval Islamic culture, though it would be many centuries before these principles were formalized by Western physicists. Later in the story, the narrator is rescued by a mechanical man, who rows him away from the mountain: “a man of brass bearing on his breast a plate of lead graven with names and talismans.” Brass and lead are not ferromagnetic, so the mechanical man is unaffected by the mountain’s power. For Barbaro, this particular story shows:

…how much the germs of SF literature can be traced to the first manifestations of Arabic literature, though they are far from being interpreted as elaborations of the fortunate theme of the man/machine relationship that has formed the background of so much SF production. For the Nights as well as for ‘ajāʿib literature, a clarification must be made relative to the presence, at the time, of a knowledge that, while veiled in fantastic elements, reveals the existence of a scientific fervor that animated Arabic cultural life, even starting in medieval times. (Barbaro, pp. 38–39)

There is little relationship between the narrator and the mechanical man in the story: the automaton is more of a plot device to bring him to the island where the rest of the adventure takes place. Yet there was indeed a scientific fervor in Arabic cultural life, one unparalleled in Western culture until many centuries later. This began as a deliberate political program in the eighth century CE (Gutas, pp. 28–29), and continued to have political implications for many centuries after developing cultural momentum of its own. These literary texts take from a substrate of real scientific development.

Barbaro says the titular figure’s adventures in the long story entitled “The Adventures of Buluqiya” “enclose elements of the epoch of Gilgamesh” (Barbaro, p. 40), which isn’t in itself false. This particular story, however, in which the protagonist embarks upon a voyage across
fantastic seas to encounter fantastic personages, has little to do with either the cognitive or estrangement. Buluqiya ultimately encounters sources of great wonder, but the story is more a catalog of the marvelous than the sort of comprehensive geography found in ‘ajā‘īb literature. Barbaro also, briefly, mentions the story “Julnar of the Sea” because of its portrayal of a people who live underwater (Barbaro, p. 41). In the story, a king purchases, then falls in love with, a concubine, Julnar, who is in fact a princess of the sea-people. These are humans, not merpeople: they adapt themselves to life underwater through the Islamic version of Hermetic magic that so often characterizes stories in the Nights: magic seals, talismans, or parchments with sacred words or symbols. When Julnar bears their son Badr Basim, her brother Śāliḥ takes the baby into the sea and returns with him: “We rubbed his eyes with a type of kohl we know of, and recited over him the names engraved on the signet ring of Solomon, son of David, on both of whom be peace, as this is what we do with our own newborn babies.” The story, like that of the Magnetic Mountain, ultimately centers on the inevitability of destiny (Irwin, p. 200), and has a great deal more to do with the adventures of Badr Basim than with Julnar herself, but for our purposes it emphasizes the fundamentally cognitive understanding of certain types of magic within the Nights.

The ritual described may seem noncognitive, but within the context of the Nights and the paradigm(s) of its time(s), the ritual is rational. Not only does it take place within a larger discourse of Hermetic magic that was well-established as functional in its day, but it’s also connected to the biblical Solomon, who was held to be the source of mystical wisdom due to his status as a prophet in the Islamic tradition. And again, this tradition was and still often is viewed as fundamentally rational and cognitive. Moreover, the sea people, aside from the magic used to enable them to live underwater, are otherwise rational humans who live very similar lives: they engage in trade, war, and marriage alliances. This seems like a form of estrangement, but here, the mirror doesn’t distort at all—though it ought to, because water refracts light. The undersea aspect of the story is exotic window-dressing for a more pedestrian tale of destiny and revenge. Nevertheless, it portrays an undersea community as something within the realm of what was then understood as the rational; and thus, when twentieth-century Arab writers of SF begin to depict human communities in inhospitable environments, this story, like many of the others Barbaro mentions, can serve as a means of anchoring such
a narrative in Arabic literature so as to both ease the discomfort readers might feel and to make the SF narrative congruent to Arabic literary traditions.

Another story involving the sea is that of “Abdallah the Fisherman and Abdallah the Merman,” wherein the two characters engage in mutually profitable barter of the fruits of the land for those of the sea. Abdallah the merman invites his friend to tour the undersea world; he uses ointment from the Dandan fish to enable the fisherman to breathe underwater. For Barbaro, there is a larger point made by this story and that of Jurlnar:

We also encounter in the Nights, for example, an imaginary community that leads us back to a good part of SF production; however, we must remember that it deals with, contrary to what happens in SF, a community placed temporally in the past. In fact, almost like a warning for future generations, the stories of the Nights “reconstruct with fantasy the lost technologies of antiquity, the disappeared civilizations and the catastrophes by which they were overwhelmed.” (Barbaro, p. 41)

Within the Nights, as in Arabic literature of the classical period in general, the paradigm of history is oriented toward a decline rather than advancement. This is a not uncommon feature of medieval and Renaissance European literature as well: that the Golden Age is in the past, and things have been gradually worsening. For now, I want to raise this point and bracket it in order to continue with our examination of the SF elements in the Nights and other Arabic texts of the classical and medieval period. In the next chapter, I will address this issue more thoroughly and integrate within it an examination of the prevalence of this historical paradigm within modern Arabic literature.

While the story of the two Abdallahs is only marginally cognitive, it does engage in a good deal of estrangement. What is valuable to land-dwellers (jewelry) is common among the merpeople; what is valuable to them (fruit and bread) is common among the land-dwellers. There is underwater a City of Women, by which is meant adulterous women, who are banished thereto:

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14 Often, “Abdallah of the Land and Abdallah of the Sea”.
15 She is quoting Irwin.
If her liaison has left her pregnant, they leave her until she has given birth. Then, if the child is a girl, mother and child are both exiled [to the city] and the child is called adulteress, daughter of an adulteress, and she remains a virgin until she dies, while if it is a boy, they take him to the king of the sea, who has him killed.

This is needlessly cruel even by the standards of the time, but it serves an additional function, which is to estrange the frame narrative of the Nights. King Shahriyār believes himself justified in his misogyny and murder of women because his own wife cheated on him: he marries a different woman every night and has her killed in the morning lest she betray him. Shahrazād’s entire purpose in telling the stories is to defer her own death and in doing so persuade him that he’s a tyrant instead of a just ruler. A formal policy of having the child suffer for the sins of the parent is outside the norms: Abdallah the fisherman’s astonishment at this practice can be mirrored in that of readers at Shahriyār’s desire for vengeance upon all women at his own wife’s treachery.

**Utopian Fiction in the Arabic Tradition**

Barbaro next takes up the utopian tradition in Arabic literature and its ability to serve as a discourse in which later ASF can root itself. We explored the link between utopian fiction and SF in the Western tradition in the previous chapter: utopias pose a hypothetical and use it as a means to critique society (Clute and Nicholls, pp. 1260–1262). She argues that in general, utopias in the Arabic tradition tend to be firmly grounded in the idea of a more perfect *Islamic* society, with the real-world example of the prophet Muhammad’s governance of Madīna as the model. These sorts of Islamic utopias, for Aziz al-Azmeh, tend to be complex and less easy to separate from their mythological, eschatological, jurisprudential, and didactic contexts (al-Azmeh, p. 89). For Luc-Willy Deheuvels, utopian Arabic literature portrays:

> …an absolute model of the city, generated since the founding of Islam, rooted historically in time and space, realized in a mythical substrate, through three images: the human city, near the center of the world; the islands and city located at the end of the world; the isle of the wise…

(Deheuvels **2002b**, pp. 26–27)
The implications here for Arabic utopian literature as proto-SF are (1) that the estrangement function is concretized and foregrounded in a manner that, e.g., More’s *Utopia*, leaves for readers to infer; (2) that it provides to ASF a more explicitly Islamic context in comparison to the generally highly secular milieu of Western SF; and (3) that it presupposes a decline in perfection from that ideal community in Madīna to the present time, and therefore the work of SF has the function of recouping that lost progress rather than extrapolating future development from an initially low baseline as is more often the case in Western SF. For Barbaro, the characteristics of the utopian tradition in Arabic literature also influence nascent SF narratives that, in the Arab world, often place their protagonists in “elsewheres” grounded in images consolidated into the cultures of these countries (Barbaro, p. 44). Furthermore, the Arabic utopian tradition blends well into SF because both represent “a flight from reality, often in order to criticize it in an open manner” (Barbaro, p. 45). This in turn provides plausible deniability in societies where government censorship of criticism is the norm, something generally true in premodern times in both Western and Arabic cultures and still very prevalent in the Arab world today.

She chooses as the urtext of the Arabic utopia *al-Madīna al-Fāḍila* [“The Virtuous (or ‘Best’) City”]\(^{16}\) by the philosopher and logician al-Fārābi (c. 872–950/951 CE), who in his own time had little influence but whose ideas were in later generations used to great effect by Avicenna and others (Reisman, pp. 53–54). As a philosopher, he is best-known for bringing Aristotle’s logic and metaphysics, as well as some Platonic and Neoplatonic thought (Ivry, p. 379), into Arabic through careful and comprehensive translation (Black, p. 180). He also simplified and consolidated some of the messier aspects of Aristotle’s thought (Reisman, pp. 56–57). In addition, he disassociated Aristotelian thought from its pagan and later Christian implications, thus helping to enable philosophy to be considered as complementary to rather than antagonistic toward the Islamic sciences (Ivry, pp. 380–381). al-Fārābi’s work placed Islamic theology as the latest and best iteration in a long tradition of logic, philosophy and revelation dating back to ancient Mesopotamia; (Corbin, pp. 158–159) and while much of his writing concentrated on mysticism and the union of the intellect with the divine, it is worth

\(^{16}\)Its full title is *Mabādiʾ Ārāʾ Ahl al-Madīna al-Fāḍila*, “The Principles of the Views of the Citizens of the Virtuous/Best City”.

noting for our purposes that he adumbrates this mysticism with the argument—which we will later see used by Avicenna, Ibn Ṭufayl, and others—that creation is fundamentally cognitive in nature.

The *Virtuous City* ultimately has very little to do with the actual political governance of a city/state; rather, it mostly concerns itself with the structure and development of the soul and uses the allegory of the city as a means of accomplishing this (Black, pp. 185–186). So while it’s undeniably a, if not the, foundational text of the utopian tradition in Arabic literature, it’s not a cognitively plausible estrangement of extant societies in order to critique them in the manner that later works in both the Arabic and Western traditions will become. Henry Corbin describes the city:

It is often spoken of as al-Fārābi’s ‘politics’. In fact, al-Fārābi was not at all what we call today a ‘man of action’; he had no knowledge of public affairs at first hand. His ‘politics’ depends on his whole cosmology and psychology, and is inseparable from them. Thus his concept of the ‘perfect City’ encompasses all the earth inhabited by man [sic], the oikoumen. It is not a ‘functional’ political programme. His so-called political philosophy could be better designated as a prophetic philosophy. (Corbin, p. 162)

The city itself is first defined negatively: the ideal city is neither ignorant (lured by false, non-spiritual pleasures), wayward (has not lived up to divine ideals), erring (never learned these ideals, having been ruled by a false prophet), nor renegade (has departed from these ideals) (Fakhry, p. 130). It is in this negative definition that Barbaro finds the link to future ASF: by depicting a hypothetical society as ignorant, wayward, erring, and/or renegade, such SF partakes in a robust tradition of criticism from within, rather than imposed by Western values from without, and can evade censorship or repression by modern states that likely fulfill more than one of these conditions. The virtuous city, by contrast, is in Oliver Leaman’s words:

...one which is directed to goodness and happiness and develops the appropriate virtues in the citizenry... Happiness is attainable by the philosophers through their pursuit of intellectual knowledge, and is available to ordinary believers who are not capable of philosophy through their religious and social practices. The philosopher-king must also be a prophet, and uses his abilities to construct a political system in which the
community as a whole will be able to participate in happiness and salvation. (Leaman, p. 19)

This is as much or more a model of the human psyche as it is one of a plausible polity (Black, p. 184). The key task of the prophet-king is to simplify the difficult and esoteric philosophy/theology into language that the ordinary citizens of the city can easily understand. This sort of storytelling is persuasive to people not sophisticated enough for philosophy, and who might therefore find philosophy off-putting and draw them further away from religion (Leaman, pp. 86–87). If we give science or technology in a work of ASF the status of revelation in al-Fārābī’s narrative, then the implications of this for ASF are twofold. We might see a work that serves as this sort of storytelling, with its author as the prophet-king and readers as the community, or one wherein the protagonist (or antagonist) serves as the prophet-king, turning science into storytelling for the benefit (or detriment) of the community within the story.

Barbaro moves from al-Fārābī directly to the nineteenth century, where she undertakes a brief examination of a number of works of utopian fiction published between the middle of that century and the late twentieth. Ghābat al-Ḥaqq [“The Forest of Truth,” 1865] by Farānṣīs Fathallāh al-Marrās, takes as its subject the evolution of human civilization and mixes it with an allegory on liberty. Its central perspective on the improvement of human society is that what is needed is mahabbā, spiritual love for god. Its major fault is as a work of literature, in that its characters are, as is too often the case in early Arabic novels, static personifications of various human characteristics rather than psychologically realistic characters or agents of change (Badawi, p. 181). 'Umm al-Qurā [“The Mother of Villages,” 1902–1903] by the Syrian 'Abd al-Raḥmān al-Kawākibī, describes a conference wherein Arab leaders undertake an international effort to overcome the political, moral, and religious decadence of the Arab world. Maḏīnat al-Sa‘āda [“The City of Happiness,” 1907] by the Egyptian Muṣṭafā Luṭfī al-Manfalūṭī, is the

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17 We will return to this in Chapter 9.

18 In Chapter 4 and throughout our readings of ASF novels, we will often encounter “flattened” characters, whose purpose can be to focus us on events or arguments rather than characters. These particular characters, like many in the early days of the Arabic novel, are overly flattened.

19 i.e., Mecca.
first to move away from religion as the sole focus of the utopian society, adding to religious rigor a focus on good government and social justice (Barbaro, pp. 46–47). His subsequent work *al-Nazarat* [“The Looks,” 1910] uses the mythical Mount Qāf as the setting for another ideal society based on good government and social justice. This work adds in education as the means for development: there are no prisons, but schools are where the rules of civil life are taught. For H. A. R. Gibb, *The Looks* is one of the first works of Arabic literature to meaningfully address socialism, but it does so in a mostly sentimental fashion (Gibb, p. 318). In many of these works, the ambivalence that Mūsawi finds in Arabic literature of the period is manifest, especially in the mostly male authors’ treatment of women (Mūsawi, pp. 34–38).

The next work Barbaro addresses, the Lebanese author Farah Aṯūn’s *al-Dīn wa-l-‘Ilm wa-l-Māl: al-Mudun al-Thalāth* [“Religion, Knowledge and Money: The Three Cities,” 1903], goes much further into positing socialism as the defining factor in a utopian society. It combines a society heavily influenced by the Old Testament roots of the three Abrahamic religions with Marxist ideas of redistribution of wealth. More significantly for our purposes, it “provides an opposition to cyclical time, typical of antiquity” by substituting in a progressive chronology (Barbaro, pp. 48–49). Instead of locating its golden age in the past, like so many works of Arabic (and earlier Western) literature, it places its utopia in the future and positions it as the result of socialist development. *The Three Cities* is for Deheuvels as well as Barbaro the “first progressive utopia” in Arabic literature; (Deheuvels, p. 434) Deheuvels argues that it and similar works were heavily influenced by developments in European countries. The implications for ASF are manifest: not only does Aṯūn’s work provide a model of progressive, positive change hitherto mostly absent from Arabic literature, but it takes development (here, mostly social rather than scientific or technological) from the West and roots it within an Arabic milieu. This Arabization of Western development gives *The Three Cities* value as a foundational text, or one which can be said by an author of ASF to be foundational within the Arabic rather than Western literary tradition.

Other examples of utopian Arabic fiction includes the Moroccan writer Muhammad ibn Abdallāh al-Muwaqqit al-Marrākūshi’s *‘Abl al-Safīna* [“The People of the Ship,” 1935], whose story addresses a group of Arabs in the future on an ocean voyage to see the wonders of the world. They encounter a grander ship, commanded by Europeans,
and a clash of civilizations commences. For Barbaro, this is a harbinger of dystopian literature; (Barbaro, p. 51) for R. van Leeuven, the clash is a warning to al-Marrākūshī’s fellow Arab Muslims to beware of adopting Western ways, as they will lead to a loss in moral values, domination by foreigners and the fragmentation of Muslim society (van Leeuwen, p. 21) This particular admonition becomes a staple for Arabic novelists in general in later decades: the tension between the clear desire of many Arab writers, themselves educated or acculturated in the West, to remake the Arab world in the image of Western democracies, and their own awareness (or lack thereof) of how unrepresentative they are of their countries and the impossibility of this task, characterizes many Arabic novels from the middle of the twentieth century.

Finally, she moves to Tawfiq al-Ḥākim, one of the most influential figures in Egyptian literature of the middle of the twentieth century. Ḥākim (1898–1987) was a novelist, playwright and social commentator, primarily concerned with modernizing Egypt and the difficulties involved in doing so. In theater and short stories, he was greatly influenced by experimental European theater, most notably the work of Pirandello. His first major published work, the play ‘Ahl al-Kahf [“The People of the Cave,” 1933] concerns the Christian story of the Sleepers of Ephesus, also found in the Qur’ān. In the story, the sleepers awaken after three centuries to find the world changed around them. In the play, the sleepers find that the world is too complex and overwhelming for them, and decide to return to the cave to sleep again. Paul Starkey quotes Ḥākim himself to buttress his argument that the play is about the inability of Egyptians to adapt to modernity and their preference for turning to the past for inspiration instead of looking to the future (Starkey, pp. 39–40). We will see this phenomenon and its estrangement in several of the works of ASF examined in the later chapters of this study. Barbaro also considers Ḥākim’s 1958 play Riḥla ‘ilā al-Ghad [“A Voyage to Tomorrow”], based on the short story Fī Sanat Malyūn [“In the Year One Million”], which ‘Azzām cites as the single foundational text of ASF (‘Azzām 2000, p. 23). She argues that Ḥākim’s interest in what might be considered SF stems from the general climate in the 1950s of human-kind’s exploration of space, but that most of these quasi-SF plays and stories owe more to experimental theatre and Pirandello than they do to clearly SF discourses (Barbaro, pp. 100–101).
Technological Marvels

Another common discourse in the classical and medieval periods was that of technological innovation: ingenious devices that appear to do something supernatural, but in fact use gears, water pressure or gravity to perform their functions. The best-known compendium of such works is al-Jazari’s twelfth-century *Kitāb fi Ma‘rifat al-Hiyal al-Handasiya* [“The Book of Knowledge of Ingenious Mechanical Devices”] which describes in both text and diagrams a vast number of clocks, drinking vessels and pitchers, fountains, mechanical devices for raising water and other uses. For Barbaro, Jazari:

...represents one of the examples of numerous medieval volumes in which the records of the Arab scientists involved were collected in the construction or ideation of devices of all types, where the adjective ‘ingenious’ was often used to make rational scientific skill unthinkable in its time and therefore relegated to the sphere of magic.” (Barbaro, p. 39)

I think that this is something of a misunderstanding of what compendia like this were intended to do. If we return to the examples of the fantastic in works of *‘ajā‘ib* literature, where the inclusion of the purportedly fantastic among the cognitively plausible real-world phenomena reminds readers that creation, while containing much that seems miraculous, is in fact within human understanding, we can see a similar purpose at work in texts such as Jazari’s. *The Book of Knowledge* contains descriptive text, drawings of the elaborate superstructure of the machines and a detailed explanation of the tubes and gears and other machinery that makes, for example, a metal bird appear to flap its wings and sing. One purpose of this is to show artisans how to make toys and other delights that enhance the grandeur of a ruler’s court, but the other purpose, which is more important to the argument that these devices represent a source discourse for ASF, is to show how the seemingly miraculous is in fact based on scientific laws that anyone with sufficient patience can understand. Furthermore, whereas the phenomena described in *‘ajā‘ib* literature are more or less purely descriptive, the examples given in works like al-Jazari’s take the cognitive basis of purportedly miraculous phenomena a step further, by allowing artisans to build the devices in order to put these laws into action.
THE DEVELOPMENT OF ARABIC SF

Barbaro ends her survey of Arabic utopian literature by recapping the various genres of classical and later Arabic literature in which ASF might ground itself:

The birth of this genre, it should be stressed, is placed temporally in a later epoch to that hitherto taken into consideration, except for the utopian narratives which came out in the nineteenth and twentieth centuries. Also, in fact, [SF] revived extraordinary heroes and timeless places recovered from the heritage of ‘ajā‘ib, aspects of fantasy recovered from the Nights, as well as the social and cultural values that so animated the philosophical-eschatological fabric of the medieval epoch, and which characterized the plots of more recent utopian narratives. For texts that were attributed to al-khayāl al-‘īlmi, the definition of “impure genre” that so often distinguishes SF applies. (Barbaro, p. 54)20

She then moves to self-consciously SF texts of the latter half of the twentieth century, which, as with Western SF, began with short stories and only then moved to novels. Among the first works of ASF were translated Western works, whether fiction or non-fiction: the memoir of Michael Collins, one of the Apollo 11 astronauts, was translated into Arabic in 1978. Some short stories of Western SF were translated into Arabic without the original publisher’s permission; these were often heavily amended (Snir, pp. 268–269). From this, native forms began to develop, mostly in Egypt and mostly as series of mass-market novels. Most of these series, while they may have SF elements, more properly belong to other genres, or mixed genres, such as the series beginning in the 1980s by Egyptian author Nabīl Farūq called Milaff al-Mustaqbal [“The Future File”], which are more properly detective novels with SF elements. In these formulaic novels, a team of investigators from “The High Command of Egyptian Scientific Intelligence” addresses various enigmas or threats to national security. Later in the 1980s, Egyptian author Ahmad Khālid Tawfīq began to publish his two series, Mā Warā’ al-Ṭabī‘a [“Supernatural”], a collection of fantasy-horror novels, and Fāntāziya [“Fantasia”], in which an Egyptian housewife uses a dream-generating computer to live in various fictional worlds. These

20 She is quoting the Encyclopedia of Science Fiction, p. 567.
tend to lean heavily on the fantasy, but nevertheless begin to approach SF more closely than earlier series. Gradually, more mature form of SF has begun to develop: Tawfiq, for example, wrote a dystopian SF novel, Ṭāṭārībīyā [“Utopia,” 2008], which I have argued uses cognitive estrangement to critique both the gaping class differences in Egyptian society and the misplaced priorities of Egypt’s intellectual classes in the runup to the Arab Spring protests of 2011 (Campbell 2015, p. 541).

Yet as Snir argues, the development of ASF as a self-conscious genre, and especially its attempts to canonize itself as serious literature, pre-dates the appearance of pulp fiction for the mass market. The novels we will examine in Chapters 5–10 of this study will come from this period between 1965 and 1992. They will provide us with the opportunity to see how these works of serious SF both conform to most of our own expectations, yet include elements of the fantastic and a perspective on societal reform that takes into account the genres we have explored above. They are works of hybrid SF—almost the same, but not quite—and as such will require careful attention to the tropes and preoccupations they have taken from these Arabic literary and philosophical traditions as well as those found in Western SF.

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