Speculations on Islamic Sonic-Aeolian Cosmotechnics

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The following is a sonic ethnographic incursion into the techno-sensorial lives of the inhabitants of a West Asian city named Agrabad, existing in a timeline where European colonialism did not take place. The text is a speculative exercise that departs from a recording of wind capture sounds collected in the city in question, and it is inspired by a science fictional impulse to push a socio-technological phenomenon beyond its imagined limits (Shaviro 2019). We think of this as an "alter-real" endeavor, meaning a "realism that takes the risk of asserting the reality of what is deemed improbable, implausible, marginalised, suppressed, irrelevant, even scandalous, and seeks to draw out its possible implications for the transformation of what is considered credible, reliable and serious" (Savransky 2017: 22).

Agrabad is a regionally important, Islamic city located in the silk road trading routes between East Asia and Europe. Like many other cities and towns in these geographies, Agrabad extends upwards towards the sky through the countless wind catchers that punctuate its cityscape. *Bādgir* (بادگیر), as these tower-like structures are called in the local variant of Farsi, are technological devices dating back at least three thousand years. They never became popular in Euro-American architecture, as it developed in our current timeline. But in West Asia and the Gulf region, they are an integral component of the cityscape for their relatively cheap and accessible ventilation and cooling effects. In what follows, we speculate on the

lived sensorial experience of Agrabad in relation to wind catchers, focusing in particular on the sonic aspect of these technologies, and on the listening practices of the Agrabadians.

(We are aware of the problem of using certain concepts, anthropological and otherwise, for this speculative endeavor. Obviously, many of the terms invoked in this text are meaningless in the timeline we describe. Some concepts even undercut the very notion of an alternative timeline. It is therefore important to point out already here that our usage of such vocabulary is guided by the descriptive affordances offered by these concepts *in our timeline*.)

Bādgir: Agrabadian wind catchers

The Agrabadian wind catchers come in different shapes and forms. Most are tall tower-like structures ranging somewhere between 40 and 50 meters in height. Sitting atop residents' houses and communal buildings, their altitude allows them to capture strong and cool winds while avoiding dust storms, which are ubiquitous in the surrounding, hyper-arid desert landscape. For thousands of years, the Agrabadian wind catchers have been provided with eight multi-directional openings. This allows them to redirect wind flows through people's houses despite periodic and seasonal wind changes. In addition to entrapping winds, the wind catchers also operate by means of indoor-to-outdoor temperature and moisture differences, allowing the movement of air into and out of buildings during periods when strong winds are absent. These environmental differences are tapped into to create a suction effect, through which air is made to flow through subterranean water canals. As the draft travels over the water, the dry air becomes humidified before entering the dwellings. This evaporative cooling technique is also used to store water at near freezing temperatures in the summer season.

As can be discerned in our sound recording, Agrabadians gradually began integrating new features in their wind catchers, which eventually pushed them beyond their original dispositions as exclusively aeolian technologies. In tandem with residents' growing attunement to their aeolian surrounds, several automated mechanisms were incorporated in the structures, which helped augment their capacities as *sonic* technologies. As the wind goes down the corridors of the *bādgir*, different sounds are produced. Wind patterns, temperature, directions, and composition influence these sounds in a variety of ways and, as a result, residents have gradually developed a sound-based relationship with wind and a vocabulary to describe it.

As noted already, Agrabad is an Islamic city. Therefore, against the modern secular idea of passive listening, we draw on the concept of *samā'* (سَمَاع). *Samā'* is often translated as "sacred audition" (Avery 2004). It points to a mode of listening that involves the affective and sensate being (Kapchan 2009). Accordingly, s*amā'* has been referred to as "ethical listening" (Hirschkind 2006), "faithful listening" (O'Brien 2020), "deep listening" (Becker 2004), or "listening with the heart" (Tettner 2018), and it hints towards a certain sonic habitation of the body within Islam. The disciplines studying this sensorial modality of being in the western academy can be said to be those concerned with "religion". However, we seek to move beyond this category, motivated in part by established criticisms of "religion" as a category of anthropological analysis (Asad 1993). In the words of Michael Lambek (2013), Islam is not transcendent to the social order, but immanent within it. In a timeline where "secularism" never emerged as a category, listening practices that can be described with recourse to the *samā'* concept are pervasive.

Knowing wind through sound

Samā' denotes an acoustic epistemology or "acoustemology", a term first introduced by anthropologist Steven Feld (1996: 97) to capture "acoustic knowing, of sounding as a condition of and for knowing, of sonic presence and awareness as potent shaping forces in how people make sense of experiences". Here we do not use epistemology in its reductive form to denote (cultural) perspectives on a univocal reality (Nature), an approach located within the Euro-American modernist project (Holbraad et al. 2014) that this speculative exercise seeks to avoid. Rather, we suggest that people's lived experiences of, in, and through sounds can be described better as *ontologically* productive.

We are particularly interested in how sonic-aeolian onto-epistemologies in Agrabad are related to the wind catchers as technologies. The notion of "cosmotechnics" is helpful—a term that Yuk Hui (2017) uses to do to "technology" what ethnographers have done to "Nature", multiple cosmotechnics being analogous to multiple nature-cultures as they become enacted, practically, through encounters between heterogeneous human and other-than-human elements and processes (see Gad et al. 2015).

Questions of technology have become intimately intertwined with Euro-American modernity. As Gunalan Nadarjan (2008) points out, "there are practically no scholarly studies that are dedicated to the exploration of the Islamic conceptualization of technology. While there are several works that exhaustively describe the various technologies developed by Islamic societies and scholars, these works rarely deliberate on their specific philosophical and cultural underpinnings". This suggests that our speculations need to go beyond the *bādgir* and expand to a more extensive world-building exercise that takes its cue from Hui's concept of

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cosmotechnics. The departure point is the historical linkage between the event that the FICT prompts us to alter-realize: the occurrence of the "black plague" and its impact on European societies, and the decline of what is called the "golden age" of Islam.

The siege of Baghdad by the Mongol armies in the 13th century (CE) is often taken to signify a major shift in power dynamics in West and Central Asia in delivering a conclusive blow to the already fractioned Abbasid Califate. Less than one hundred years later, there was the massive displacement of populations from the Levent and Asia Minor into the city-states of the North Mediterranean, caused by the Mongol Western Advancement, which is often credited with the spread of the black plague in Europe (Frankopan 2015). The world that the *bādgir* help co-construct is one where what is deemed "the Islamic world" has remained more structurally coherent, with networks of artifact and knowledge exchange linking the Mediterranean with the Indus. This also supposes a more direct genealogical knowledge transmission history from the period of antiquity, through the middle ages, and into early modernity. In our present timeline, European colonization is said to contribute to a discontinuity in the history of science, so that the contributions of Islamic thinkers to science and technology have to be constantly vindicated. This is not the case in Agrabad.

The main market square in the city has a gigantic *bādgir* on its western edge, and both the square and the wind catcher are named after Ismail al-Jazarī (الجزري), a 12th-century engineer, mathematician, and artist who lived a few hundred kilometers away from the city. Our sound recording was done at the al-Jazarī Meidan (the al-Jazarī square) in 2020 CE (1399, local Jalali calendar). In front of the al-Jazarī *bādgir* there is also another interesting object: a copy of a water clock designed by al-Jazarī, named the clock of civilization. Its design allows us to speculate on two aspects of Agrabadian cosmotechnics: the clock consists

of different components shaped as complementary beings, human and nonhuman (both "real" and "imaginary", as it were). al-Jazarī has said of the design: "[t]he elephant represents the Indian and African cultures, the two dragons represent Chinese culture, the phoenix represents Persian culture, the water work represents Greek culture, and the turban represents Islamic culture" (al-Jazarī 1973). There are two aspects worth noting here: one is the interconnected and collaborative aspect mentioned earlier, resultant from a cosmotechnics that was permissive of and valued knowledge exchange; al-Jazarī's clock used principles of mechanics derived by a Chinese Buddhist monk centuries before its invention. The other is the explicit design linking mechanical operations to symbolic representations of "cultures", which invokes the idea of a cosmotechnics where technology is not conceived of as existing outside of the domain of the socio-cultural, or in what Sharon Traweek (1988) has called a "culture of no culture".

Catching Wind

As the term *bādgir* denotes, wind catchers afford a particular kind of "grip" (*gir* orگیر) on the wind (*bād* or باد) and the Agrabadian atmosphere. Andrew Pickering's (1995: 190) notion of "machinic grip" describes the plurality of actual and virtual possibilities whereby humans achieve such grips on the world, including the concomitant facts, theories and, indeed, practical ontologies that a given modality of gripping, in turn, engenders and becomes recursively informed by. Therefore, and as the concept of *samā'* and its connection to the Agrabadian *bādgir* indicates, the mode of relationality to the atmospheric that Agrabadians enact through wind capture seeps into relations that extend beyond their connections to wind and atmosphere. This is a form of "reciprocal capture" (Stengers 2010: 36): a dual process through which Agrabadians take residence in a sonic-aeolian milieu by at once rendering the

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wind knowable as something to capture and allowing for it to reciprocally "recapture"

(Corsín Jiménez: 54) their understanding of the world.

There is another way in which the Agrabadian sensorial-material lived experiences can be

characterized as aeolian. Timothy Morton (2007) uses the notion of the aeolian to describe

processes that unfold without a clear subject or author. In terms of sound this can be called

"acousmatic" sound, that is to say, a sound that comes from "nowhere" in particular,

"inextricably bound up with the space in which it is heard" (Morton 2007: 41). Aeolian

sounds blur the distinction between foreground and background, they "undo the difference

between a perceptual event upon which we can focus, and one that appears to surround us

and which cannot be directly brought 'in front of' the sense organs without losing its

environing properties" (Morton 2007: 46). Hence, we speculate that the Agrabadian *bādgir*'s

collection of sounds simultaneously constitute a poetics of ambiance in the city and is part of

the acoustemology of the inhabitants, varying according to situated and circumstantial

processes of "tuning in" to wind sounds; the sensorial and embodied configurations of the

capturing-being captured reciprocal interaction.

Creating the conditions for a continuous process of reciprocal capture, the wind catchers

constitute Agrabad as a host for the aeolian (in both senses of the word), while

simultaneously allowing for aeolian agencies to host its inhabitants. Inhabiting Agrabad can

therefore be said to entail a sort of "self-entrapment" (Corsín Jiménez and Nahum-Claudel

2019: 15)—a mode of relational existence whereby Agrabadians render themselves

susceptible to becoming "wind-like" (cf. Uexküll 2010: 190-191). This reciprocal

relationship means that aurally knowing-enacting the world through the wind catchers is also

a process of subject formation: Agrabadians are "emplaced" (Anderson et al. 2017) in the acoustic-aeolian atmosphere of the city.

While conceptualising the wind catchers as technologies of capture, we carefully acknowledge how the work they achieve by far exceeds our own timeline's dominant, Euro-American understanding of such technologies "as devices of mechanical wonder and cunningness" (Corsín Jiménez and Nahum-Claudel 2019: 13). Nor are they commensurable with the history of Western air conditioning, which, as Peter Sloterdijk (2009) contends, emerged at least in part as an effect of gas warfare during WWI, thus encouraging an understanding of human ingenuity as able to "trick" Nature. Wind catchers do not *manipulate* aeolian forces. By the same token, they cannot be reduced to a cultural perspective on "Nature" or "the environment". Coming back to the idea of cosmotechnics, Nadarajan (2008), writing in our timeline, speculates in an article about technological automation in medieval Islamic devices that the relationship between technology and automation processes was not measured through efficiency, which makes sense in the resource-extractive technological mode heralded by the industrial revolution. Rather, machinic processes were concerned with the production of aesthetics manifestations of divinity, among other things. This makes sense in conjunction with the medieval Islamic understanding of sensorial practices of *samā'* as being conducive to a variety of aesthetic effects mediating a connection with God or the divine (Weinrich 2019). The cosmotechnics of Agrabadian *bādgir* help co-produce the aesthetics of *samā'*, and vice versa.

Conclusion

With recourse to our sound-recording from the al-Jazarī square, in this short piece we aimed to speculate on the cosmotechnics of wind catchers and their soundscapes in the Islamic urban setting of Agrabad, in a timeline where colonization never happened. We have done so by interpreting wind catchers as technologies of capture that engender sonic-aeolian, cosmotechnical attunement and imagination (cf. Sneath et al. 2009). As we have speculated, the "natural world" does not pre-exist such attunement, but is instead continuously "trapped out" (Corsín Jiménez 2018: 65) together with and through Agrabadians' specific acoustemology of *samā'*. We can only imagine what it must sound like to inhabit such a world. Our recording might give you a hint.

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