

Chapter 2

THE WINDS AND THE WEATHER

Let the fifth place be taken...
By the loftily soaring bronze construction...
A four-legged structure full of wonder...fitted with four bronze sides,
Adorned on all sides both with carved creatures,
And tendrils bursting with fruits and pomegranates.
Naked erotes entangled in vines, stand there sweetly smiling
...making fun of those below...
Youths kneeling...blow out the winds through bronze trumpets,
One the west wind, again another the south.
At the summit of this a monstrous creature made of bronze
With bronze wings being blown around,
Depicts the sharp blasts of the winds,
All the gales that blow towards the city,
The north wind, the south wind, and the fair northerly,
The bold east wind, and the hard-blowing southerly.¹

THUS DID POET and orator, Constantine of Rhodes, describe a windvane that stood in Constantinople for centuries before it was destroyed in the rampage of the Fourth Crusade in 1204 CE. Constantine wrote this description some time in the first half of the tenth century CE. He ranked the windvane fifth among what he deemed were the seven marvels of the Byzantine capital.² Its splendour was also captured by another later commentator, Nicetas Choniates who, soon after 1204, lamented its destruction at the hands of the Crusaders. According to Choniates, the windvane was

a four-sided bronze device...almost equal in height to the tallest columns...a marvel...every musical bird, giving its springtime song, was carved upon it...the tasks of husbandmen, the pipes and milk pails, and the bleating sheep and bounding lambs, were depicted. The widespread sea and schools of fish were to be seen, some caught, and others breaking out of the nets...there were the erotes shown in pairs and groups of three...innocent of clothing but armed with apples...they shook with sweet laughter as they threw these...

¹ Constantine of Rhodes, *On Constantinople*, trans. James and ed. Vassis, 31–33.

² For details on the poet and his poem, see Constantine of Rhodes, *On Constantinople*, trans. James and ed. Vassis, 131–57.

This four-sided monument terminated in a point like a pyramid, and above was suspended a female figure which revolved at the first breath of winds, for which reason it was called the *anemodoulion*.³

Evidently the wondrous dimension of this windvane, as per our sources, consisted of the cumulative effect of its size, height, automotive quality, and material. For our purposes, this monument also supplied the backdrop, or support, for imagery of a decidedly bucolic bent; a point underscored in Choniates' description of the husbandsmen's work, and the pipes, pails, bleating sheep and skipping lambs that adorned the structure along with the depiction of other activities such as fishing and apple-throwing, although we are not told precisely where on it such imagery was made visible. If the motif of the shepherd carrying a sheep could stand alone as a sculpted image (as examined in Chapter 1), in this case figures akin to the shepherd seem to be embedded in a larger, more riotous visual narrative. Despite the frustrating paucity of information proffered regarding the precise location of the windvane, if we take our commentators seriously, we must accept that bucolic imagery played a role and occupied an important space in the public sphere in Constantinople, on an object whose immediate function was to measure the weather.

This chapter takes on a two-fold challenge: first and most obviously, it gauges the reasons why bucolic imagery was deemed most suitable for an instrument designed to capture weather patterns. This question is partly inspired by the secondary literature on the object, which is far from copious, and which has mainly concerned itself with questions regarding the windvane's possible location, political significance, the number of winds it depicted, and the identity of the bronze female figure on the top. Dunstan Lowe points to the fact that structures such as the windvane (and light-houses, as a parallel category) were mechanistic devices that doubled as marvellous sculptural objects in their own right.⁴ Additionally, Benjamin Anderson has argued that the original Constantinopolitan structure was an ancient tetrapylon *later* adorned with the pastoral scenes under the reign of Leo III as a consequence of his naval win over the Arabs in 717–718 CE. According to Anderson, the windvane was redeployed as a victory monument, with the bucolic images invoked as part of an iconography of triumph.⁵ This is a useful, if necessarily speculative, claim, but Anderson does not

³ Nicetas Choniates, *O City of Byzantium*, ed. and trans. Magoulas, 358.

⁴ Lowe, "Twisting in the Wind," 147–69.

⁵ Anderson, "Leo III and the Anemodoulion," 41–54.

explain why *bucolic* elements (rather than epic imagery or the cross) were deemed suitable as an expression of victory in this period. My argument expands on Lowe's and Anderson's contributions by questioning the fundamental relationship between the general form and function of this structure, and the role of the bucolic in relation to the weather. As we have seen, the mode was integral to a certain strand of early Orthodox discourse regarding the bishop and his flock, and the sonic and other kinds of physical relations imaginable between human and non-human entities. In this chapter, I shift to an examination of monumental structures that overtly articulated a link between the bucolic mode and weather-watching.

My second concern is to demonstrate that the windvane was a scientific instrument in its own right, with the bucolic imagery perceived to play a role in the study and manipulation of weather patterns. Objects like the windvane were officially designated as scientific instruments only in the late modern era.⁶ However, the fundamental attribute of this category—that is, the utility of an object for measuring a natural phenomenon—is applicable in this case as it is for other public objects intended for a similar purpose, such as sundials (briefly examined later in the chapter). The sphere of Byzantine science has largely and rightly focused on the knowledge fields contained and developed within manuscripts.⁷ The windvane, when studied at all, has been examined as part of the monumental corpus of Constantinople rather than as a device related to the weather.

Gauging the weather remained a more or less consistent concern throughout the Byzantine era.⁸ If scholars designate a category of scientific instruments on the basis of their generation of a signal after interaction with a particular phenomenon (which signal can then be understood as information about that phenomenon), then the windvane falls into such a category.⁹ It is an image-bearing object operating as a sign which, in turn, indicates a relatively unpredictable element (wind, in this case), and its actual and/or anticipated behaviour; a gnomon of sorts. In its role as a scientific instrument, the windvane must have invited some rumination on the associations between the pictures permanently displayed on it and the changeable sign

6 See the comments in Taub, "What is a Scientific Instrument, Now," 453–67, and Taub, "On Scientific Instruments," 337–43.

7 See the essays in Lazaris ed., *A Companion to Byzantine Science*.

8 Telelis, "Meteorology and Physics," 177–201. Telelis does not mention the Constantinopolitan windvane in his overview.

9 See Davis Baird's study of different categories of scientific instruments in Baird, *Thing Knowledge*, 68.

it indicated. Moreover, by dint of its position in an open urban space and its interaction with the elements (certainly wind, but perhaps also water via rain), the windvane operated in tandem with the weather and its vagaries as a changing backdrop over time. Indeed, in ancient handbooks (and well into the middle ages), wind was regarded as an irregular element relative to others, and certainly in comparison to the rotation of the spheres, thus averring the contingencies it entailed.¹⁰ The element of wind, its measurement, embodiment, and description, were all a means of creating links between the human and nonhuman worlds; by extension, the windvane can be regarded as a “heuristic for understanding where nature begins and ends.”¹¹ The “weather,” in this period, comprised a broad range of phenomena pertaining not simply to rain or snow or sunshine, but also to earthquakes and astronomical elements.¹²

No less important is the fact that the windvane and its imagery was also embedded within the larger urban context of the Byzantine capital with its wealth of existing statuary and monuments (both pre-Christian and Christian) and various ritual and social relations mediating between them and their audience. Pictorial aspects of the windvane were reflected in other monuments; think of the Good Shepherd imagery on fountains or in gardens, for instance, as discussed in the previous chapter. By the same token, the statue on the top of the windvane that signalled the direction of the winds seems to resemble other statues in Constantinople with their hands or arms outstretched in deictic gestures. It is within these interpretative frameworks that the chapter positions this striking but understudied monument.

Significantly, but not surprisingly, both Constantine’s and Choniates’ descriptions of the windvane are redolent with actual, imagined, and depicted sounds: trumpets wielded by youths, songs sung by birds, the bleating of sheep, the pipes, and above all, the whistling of the winds. Where Orthodox discourse cast the shepherd’s voice as an essential component of the concept of the Good Shepherd, here the winds and the birds, specifically, are understood to possess their own vocal presence which coalesce around the windvane with the other sounds it displays and evokes via its imagery. This multispecies soundscape—embedded in and integral to the bucolic—is intimately related to concerns about the weather and its portents.

10 Obrist, “Wind Diagrams and Medieval Cosmology,” 37.

11 This formulation appears in a study of winds in the medieval west in Robertson, “Embodying the Wind,” 247.

12 There is lots of contemporary scholarship on “weather.” I mention here one major study pertaining to the period at hand: Taub, *Ancient Meteorology*, 2.

In fact, the textual and pictorial evidence suggests that bucolic imagery was regarded as the appropriate expression for staking claims about the coexistence of the natural and human worlds more broadly. Since wind direction presaged weather, the bucolic scenes on the device play into a discourse regarding the immediate and changeable atmospheric conditions that affect sentient beings, and the material and sensorial experiences that weather conditions facilitate.¹³ This dimension is also apparent in other instruments such as the Nilometer, designed to measure the rising levels of the Nile river.¹⁴ Several depictions of Nilometers exist in a range of media, in contrast to the windvane of which no remains or representations are extant. Although no Nilometer imagery, to my knowledge, depicts the motif of the shepherd and/or sheep, many examples display the other components (erotes, birds, fish, plants) mentioned in Constantine's and Choniates' descriptions of the windvane. Finally, my argument claims that on these particular devices the bucolic mode articulated the principle of contingency, defined here as an event or condition which may, but is not certain to, occur in the future and which is dependent on variable and mostly uncontrollable factors. Just as contingency was alluded to as a recuperable condition in the conception of the Good Shepherd imagery via the narrative of the lost sheep who shall be found and saved by its keeper, so too here it operates on the scale of the predictable and unpredictable weather patterns discerned by all too human—and therefore, potentially fallible—interpreters.

The Windvane: Sources, Scholarship, Context

Windvanes are not common in the literature or art of Byzantium. The *Oxford Dictionary of Byzantium* contains no reference to such structures, apart from one allusion in a fourteenth-century *praktikon* which suggests that that particular example was located close to a watermill, and that peasants could own shares in it.¹⁵ Our Constantinopolitan windvane is severely understudied, partly owing to its complete material disappearance and partly because of the very few sources we have about it. Apart from the accounts of Constantine of Rhodes and Choniates, the only other references to it are in the *Parastaseis Syntomoi Chronikai* and the *Patria*. The *Parastaseis* is a

¹³ Hulme, "Climate," 175–78.

¹⁴ Katary, "Nilometer," 4794–95.

¹⁵ Kazhdan, Nesbitt, and Cutler, "Mill." Laura Borghetti discusses a few instances of watermills and windmills (though not windvanes) in Borghetti, "Energies," 112–34.

compilation from the eighth century of the various monuments of the capital, but riddled with errors of grammar and data.¹⁶ The *Patria* is a tenth-century patriography of Constantinople which repeats, in some cases, parts of the *Parastaseis*.¹⁷ Despite their inaccuracies and grammatical infelicities, both texts are useful indicators of the kinds of associations and perceptions invested in the capital's monumental legacy.

One reference in the *Parastaseis* places a bronze statue of the empress Verina near the “anemodourion,” (instead of “anemodoulion”) whereas a couple of others refer to a similar structure but without naming it. One such passage alludes to an ensemble of reliefs of birds and animals, including rams and heifers, and even two gorgons on a monument near, or at, the Bread Market. Another refers to a “female statue engraved on all four sides with zodiacal signs,” which expression, Lowe suggests, may also be interpreted as “animal carvings.”¹⁸ Lowe argues that the bronze female statue placed atop the windvane was Iris, mother of the erotes by Zephyrus, and one who directs the actions of the wind gods in Homeric and other literature.¹⁹

Anderson's argument regarding the windvane posits that the structure's conversion from tetrapylon to a windvane and the addition of the accompanying images of the pastoral scenes occurred when, during the reign of Leo III, an Arab siege (717–718 CE) was successfully warded off by means of prayers for a powerful storm. This argument rests in large part upon one reference from the *Patria* and speculations regarding a processional route and the monuments along it.²⁰ Little of the discussion is devoted to the specifics of the imagery. As mentioned in the preceding section, my interest lies in recuperating the value and impact of the latter. In order to do so, it is useful to look back to ancient exemplars of windvanes as possible models for the Constantinopolitan one.

The most renowned ancient windvane still stands today in Athens and appears in the writings of Vitruvius and Varro. This chapter is not the space in which to delve into the archaeological intricacies of this monument.²¹

16 Cameron and Herrin, eds. and trans., *Constantinople in the Early Eighth Century*.

17 Berger trans., *Accounts of Medieval Constantinople*.

18 Lowe, “Twisting in the Wind,” 158n33.

19 Lowe, “Twisting in the Wind,” 164.

20 Anderson, “Leo III and the Anemodoulion,” 41–54.

21 A few studies on this object are Robinson, “The Tower of the Winds,” 291–305; and Noble and de Solla Price, “The Water Clock,” 345–55; and more recently, Kienast, *Der Turm der Winde in Athen*, and Webb, *The Tower of the Winds in Athens*.



Figure 15. Tower of the Winds. Marble, Athens. © Alamy Stock Photo.



Figure 16. Zephyrus, Tower of the Winds (detail). Athens. © Alamy Stock Photo.



Figure 17. Kaikias, Tower of the Winds, (detail).
Athens. © Alamy Stock Photo.

Suffice to say that the so-called Tower of the Winds, built either toward the end of the second century BCE or 50 BCE, is an octagonal monument about 12 metres tall and 8 metres wide, made of Pentelic marble and overlooking the Roman agora (Figure 15). It contains a sundial on each side, and a ninth on the curved surface on the semi-circular annex on the south side. Relief carvings appear in a frieze framing its top. Each of these carvings personifies a wind and some of them carry attributes pertaining to their nature: Zephyrus, being a pleasant and balmy wind, carries a basket of fruits and flowers (Figure 16), whereas cold and wet Kaikias carries a container, or a shield, filled with pebbles (or hailstones) (Figure 17). Looming above the spectator, each wind thus promises to hurl down bounty of one sort or another, be it in the form of flora and vegetation, or conversely, rain and storm. And as per Vitruvius' description of the monument, "On the top of the roof of this tower, a brazen triton with a rod in its right hand moved on a pivot and pointed to the figure of the quarter in which the wind lay" (Vitruvius, *On Architecture* 1.6.4).

Lowé highlights the automotive nature of ancient windvanes such as the Athenian example, rightly contending that they operated as luxury monuments in addition to their functional dimensions. These structures furnish

a missing link between mechanisms and sculpture.²² I would argue that the bronze statue of Triton placed atop the Athenian windvane is doubly suggestive. Triton was a god of the sea and a son of Poseidon, who himself ruled over the seas and the winds that blew over them. Ancient Graeco-Roman literature refers to tritons as dwelling in marine environments. Placing the god of watery realms atop an instrument as the indicator of wind demonstrates the intimate coexistence of these elements. Wind affects water.²³ So too does the direction of wind affect the statue of Triton. By the same token, water affects wind. Aristotle and Theophrastus made this observation in their treatises respectively titled *Problemata* and *On the Winds*.²⁴ Apart from scientific treatises, poetry also played a major role in disseminating and reformulating meteorological information and remains a valuable (if perhaps unexpected) source for it.²⁵ In Homer's *Odyssey*, water—or more accurately, the sea—and wind are often invoked together, sometimes in reciprocal behaviour in which the sea is said to toss rafts about just as the autumn wind might whirl thistledown, and conversely, when the winds raise the sea in storms.²⁶

In the overlapping realms of myth, science, and poetry (none of which were entirely discrete spheres in the premodern era), the nature of the wind, or winds, affecting Triton's statue might be traced back to Triton's mythical influence. The relationship between wind and water thus might range from the agonistic to the mutually functional. The sundials placed on each side of the Tower of the Winds also introduce the observation of light into the picture, rendering the structure both a windvane and a time-keeping device. Its interior is believed to have had a relatively sophisticated mechanism for a water clock. However, even as it brings together the functions of wind-observation and time-keeping, the Tower necessarily signals, in visual form, the priority of wind in its structure simply because the highest—and therefore most visible (even if not in a detailed view)—object is the statue of Triton that functions as the indicator of wind.

Apart from their allusions to the marine world, windvanes in ancient discourse could also be directly linked to bucolic settings. So, for instance,

22 Lowe, "Twisting in the Wind," 147–69.

23 For more on wind and water, see Borghetti, "Water, Ubiquity, and Multiplicity," 317–43.

24 Neumann, "The Sea and Land Breezes in Classical Greek Literature," 5–8.

25 Taub, *Ancient Meteorology*, 2–3.

26 Homer, *Odyssey*, trans. Butler, 5. Hereafter cited parenthetically in the text.

the reference to the Tower of the Winds by Varro is embedded within a famous description of his aviary near Casinum. This aviary was a complex structure with many natural and man-made elements in it. Shut in by high walls and shaped like a writing tablet, the bottom was lined with cages. Nets covered the surface from the walls to the architrave to keep the birds inside.²⁷ In one part, directly below a dome, it “had a ring of the eight winds, as in the horologium at Athens...There, a spoke projecting from the axis moves around the compass, so that it touches the wind which is blowing, so that you can tell from indoors which one it is.”

Varro’s comment indicates both a broad network of knowledge relating to scientific devices in antiquity and simultaneously a more particular context within which wind activity is evoked: namely, a space populated by birds and their habitat, meticulously reconstructed to reflect their natural surroundings in an artificial universe. Per Varro’s account, the winged creatures frolicked in verdant areas composed of shrubs native to the lands from which each species was imported. Watery features were a part of this space as well. Scholars are divided over whether the windvane in the aviary was intended for a human or a purely avian audience. C. M. C. Green makes the intriguing suggestion that it was intended for the birds. These winged creatures were themselves regarded as instruments of augury, “but in captivity their movements signify nothing, and they, like humans, must look to machines to know which way the wind is blowing.”²⁸ I will return to the implications of this observation later. For now, note the striking similarity between the actual components of the aviary (in terms of the different species of birds, the water, the fish, and the human visitors it presumably attracted) and the depicted components of the Constantinopolitan windvane as per Choniates’ account. This is not to suggest that the latter was directly inspired by the former; rather, it is to propose that spaces bringing together many species and scientific instruments could share a similar repertoire of images bound by certain conventions. Following from this, how might the bucolic scenes have worked with and/or against the image of the female figure on the top of the Constantinopolitan windvane? Would these have been perceived to evince any connections at all? We could try to answer these questions by balancing our few sources on the device with the general principles undergirding Byzantine visuality in the period, and the effects of other similar monuments in the capital city.

27 Green, “Free as a Bird,” 441.

28 Green, “Free as a Bird,” 443.

Evidently, the windvane was very tall, since Choniates compares its height to the columns of Constantinople which were among the highest in Europe. The monument, thus, could have resembled and even rivalled the majestic columns bearing the statues of emperors. These statues were sometimes endowed with a deictic function, indicating the direction of a conquered land, or a horizon beyond, soon to be conquered. Procopios' description of one of these monuments mentions the "huge bronze horse turned towards the east...he seems about to advance...Stretching forth his [emperor's] right hand towards the regions of the East and spreading out his fingers, he commands the barbarians that dwell there to remain at home and not to advance any further."²⁹ This statue does not simply assert its own presence; it actively gestures toward other geographies in a bid to display dominion. We recall here that even the ancient gods were perceived to perform a similar deictic role in the cityscape: the bronze statue of Athena whose hand was interpreted as egging on the Crusaders was destroyed by an enraged Constantinopolitan mob because of that offending gesture. The windvane with its own deictic statue presiding at the top, thus, fits well into this category of monumental imagery.

If we imagine the windvane to have been constructed on the lines of the Tower of the Winds, albeit with four sides (as per Constantine of Rhodes) and a pyramidal roof (as per Choniates), then we might also fruitfully analyse the nature and disposition of its images. These would have adorned its nether parts and would have been in pointed contrast (in terms of numbers and narratives) to the lone figure gracing its top. The scenes of singing birds, skipping lambs, swimming fish, and piping and herding men must have unfolded on the body of the monument. However, it is important to note that neither Choniates nor Constantine delineate these scenes as being bound in any particular narrative order, sequence, or hierarchy. Since Constantine specifically mentions the erotes as "making fun of those below," they might have been positioned at a higher plane, or a frieze defining the top of the monument. What is described are not the same as the single figures adorning the frieze of the Tower of the Winds, but rather scenes with unfolding actions. It is possible that these were not glimpsed in their entirety from any single position on the ground, but that they required a mobile viewer circumambulating the monument. In contrast the female figure on top was probably visible in its entirety, if not in detail, since its very role was to indicate the direction of wind. Finally, our sources suggest that the bucolic scenes were

29 Mango, *The Art of the Byzantine Empire*, 10–11.

packed with multiple gestures and directions. In contrast, the female figure must have indicated one critical point, and direction, on the compass. It is not a stretch to imagine that the antitheses defining the female figure and the bucolic scenes I have etched above were clear to a Constantinopolitan audience. As Henry Maguire argues, antithetical thinking was an ingrained habit for the educated viewer, reader and listener who was expected to forge connections between seemingly disparate episodes, motifs, and themes.³⁰

The female figure and the narrative scenes on the windvane could also have been interpreted in a *causal* relationship. In other words, the episodes of fruitful bounty with the vines and pomegranates, of men herding, piping, and fishing, and so forth, might have been regarded as the consequences of winds to come, or currently in play. Favourable, soft winds such as Zephyrus could be envisioned as enabling and shaping the bucolic ambience. On the other hand, a stern wind, or a damp one such as Typhoes, could wreck it. However, in a typically Byzantine manoeuvre redolent of the subtle wit and sophistication of its art and literature, the bucolic scenes on the windvane remain forever because they are artificially wrought, no matter the kind of wind or weather in place. Icy Boreas may blow; it makes no difference, for the scenes prevail in their abundance. In such a case, however, viewers would be forced to note the harsh disjunction between the depicted scenes and the weather implied therein, and the actual weather conditions. The resulting discrepancy between the sign and what it actually indicates renders the imagery as an ideal, and therefore, contingent. Unlike a sacred icon (where the image of the holy person was regarded as a key to the holy prototype, or subject), the bucolic scenes furnish no such direct or definitive key where the weather is concerned.

Could the reverse of my original question also be applicable? That is, could the images on the windvane have been read in their turn as the source, and cause, of the kinds of winds and weather enveloping Constantinople? In other words, could the windvane imagery be perceived to have attracted a certain kind of weather? The activities depicted are rooted in nature, with the humans described as being in interface with the natural world and many other species. Each of the actions depicted could and would certainly have been recognized for the consequences they had for their immediate environments, even in an age not as gripped by the signs of climate change as is ours. More to the point, the actions of the animals depicted in tandem with

30 Maguire, *Art and Eloquence in Byzantium*.

the humans could plausibly have been interpreted to reflect, anticipate, and even coax certain weather patterns.

We find precisely these kinds of preoccupations in the *Geoponika*, a compilation of horticultural and agricultural knowledge and lore synthesized under Emperor Constantine VII Porphyrogennetos in the tenth century CE.³¹ The first few chapters are dedicated to portents of the weather, and in each case these are signalled by changes in the colour and position of the sun, the moon, the behaviour of clouds, the appearance of rainbows, and other such phenomena. Importantly, the responses of animals to these phenomena are recorded as significant. When flocks caper about with excessive friskiness, and cattle look toward the south and lick their feet, and dogs dig the ground, such behaviours apparently portend tempests to come, as do birds flying towards the sea and cranes swiftly winging their way.³² This is just one instance among several others in the *Geoponika* of animals and animal behaviour signalling a particular weather type.

Birds occupy a special position in this sign system. The role and status of birdsong is far better studied in the medieval west than in Byzantium,³³ but it was of no small significance in the eastern Roman empire. Recall that according to some scholars, Varro's ancient aviary contained a windvane (and other features) specifically intended for an avian audience who, when free to fly outside their confines, might have been augurs themselves of the weather.³⁴ In alignment with this perception, in the *Geoponika* individual voices of birds and their modulations are said to be accurate indicators of the climes. The owl's incessant nightly cry, the crows' cawing at dawn, and the ravens' chorus when akin to rejoicing, all point to fair weather. In contrast, when the raven washes its head and shrieks loudly at night, the barn fowls clamour, crows and jackdaws appear in flocks calling loudly, and swallows twitter around pools and fish-ponds, then rains are nigh.³⁵ Choniates' suggestive comment about "every musical bird...giving its springtime song" on the windvane attains a deeper significance in the light of the *Geoponika*'s collected wisdom, and its mention of bird sounds and avian behaviour in predicting the weather. The very soundscape of the depicted birds on the device might have been interpreted to evoke, and invoke, a corresponding

31 Dalby, trans. and ed., *Geoponika*.

32 Dalby, trans. and ed., *Geoponika*, 58.

33 See the definitive work by Leach, *Sung Birds*.

34 Green, "Free as a Bird," 443.

35 Dalby, trans. and ed., *Geoponika*, 57.

weather pattern—in this case, climes akin to spring. At the same time, we must imagine real birds sometimes perching on the windvane and singing their songs, perhaps along with, or in contradiction to, the visualized spring-time birds. The soundscape evoked by the imagery and the actual soundscape surrounding the monument might have complemented, or competed with, each other in regard to the weather they portended.

Constantinople contained other devices that also worked with and against natural processes. The monumental sculpture of an eagle attacking a snake that once stood in the Hippodrome doubled as a sundial and was believed to ward off poisonous snakes from the capital.³⁶ Along with its time-keeping function, this ensemble was also an apotropaic talisman, keeping the city safe from serpentine contagion. It was heavily invested with a complex soundscape in Choniates' description: the sighs and screeches and other vocal emanations he read into it as part of his ekphrastic response along with the sounds of the winds and birds in the case of the windvane, which would have been real phenomena at certain moments.³⁷ Sound was clearly regarded as an integral part of the proper reception of these objects. In light of the eagle-snake ensemble and its apotropaic role, the talismanic dimension of the bucolic images on the windvane comes to the forefront. That is, the latter was probably perceived to enable the manipulation of the elements, just as the eagle-snake sculpture was believed to "work within a broader network of non-human forces and entities" and to have played a role in manipulating a particular species and its behaviour vis-à-vis the city.³⁸

One final but important point is the broader relationship between sound, or specifically music, and nature writ large. The myths of the famed musicians of antiquity, such as Orpheus and Thamyris, were well known in Byzantium and were sometimes visually evoked in depictions of the Old Testament warrior and king David playing the *psalterion* (see Chapter 3). The power of Orpheus—or David as a musician (since he plied his musical skills while shepherding his flocks)—lay in the ability of their musicianship to unleash storms or conversely, arrest animals in their track, coax tears from stones, and soothe the torments of kings. One could claim that sound in these instances was specifically regarded as an agent of ecological change, if we define ecology in its fundamental sense as the relations sustained by

36 See Madden, "The Serpent Column of Delphi," 111–46, and Stephenson, *The Serpent Column*.

37 Chatterjee, *Between the Pagan Past and the Christian Present*, 120–26.

38 Griebeler, "The Serpent Column and the Talismanic Ecologies of Byzantine Constantinople," 86–105.

humans and non-humans to, and with, their surroundings. By this token, the sounds mentioned by Constantine and Choniates could be read as integral elements of both the bucolic mode itself, and of the windvane's perceived interface with the weather.

Fountains and Nilometers

Structures analogous to the windvane in terms of function, imagery, and soundscapes are fountains and Nilometers. These objects can serve to flesh out the context of the former, given our scarcity of sources about it. Although not as understudied as the windvane, fountains and Nilometers still require deeper analysis in terms of their impact on their surrounding spaces.

Fountain complexes from the Roman empire and in late antiquity were not simply functional sources of water and refreshment, but also grand architectural and mechanical devices deployed in civic display and competition. They were poetic structures that inspired the literary and visual imagination.³⁹ Fountains were often (but not always) public and monumental in expression,⁴⁰ and according to some of our sources, were sometimes decorated with bucolic images. Byzantine literature helps us to understand their imaginative and actual resonance.

Take the fountain described in the twelfth-century romance, *Hysmine and Hysminias*, written by Eumathios Makrembolites, as one prime example. This object is said to have displayed a milking goatherd, a shepherd's bowl, and different species of birds, goats, sheep, and a hare, possibly in relief, although the text is not overt on this matter.⁴¹ The device is said to consist of a many-hued column in a well (thus approximating the quality of the height of the windvane) with a basin, on top of which stood a golden eagle that spouted water from its beak (much like the bronze female figure that interacted with the winds on our monument). "The basin received the water; the eagle stretched out its wings as if it wanted to bathe."⁴² Makrembolites here invests the bird with motion even as the element of water moves from and along it. Note that the eagle is posited as the very source of the water. Similarly, the female figure on the windvane might have been regarded as the

39 I cite here two studies: Dörl-Klingenschmid, *Prunkbrunnen in kleinasiatischen Städten*, and Longfellow, *Roman Imperialism and Civic Patronage*.

40 For an overview of the transformations wrought in late antique fountains, see Jacobs and Richard, "We Surpass the Beautiful Waters of Other Cities," 3–71.

41 Jeffreys, trans., "Eumathios Makrembolites, *Hysmine and Hysminias*," 179–80.

42 Jeffreys, trans., "Eumathios Makrembolites, *Hysmine and Hysminias*," 180.

source of the winds she indicated, and as aligned with them by dint of her pointing in their direction.

The elaborate description of the fictive fountain continues with a host of birds including a swallow, a peacock, a dove, and a cockerel all apparently crafted by Hephaistos and Daedalus. Makrembolites informs us that the water pouring out of their beaks endowed the birds with song, and that “The leaves of the trees, stirred by the zephyr, whispered: hearing this you would have said that the birds were singing sweetly.”⁴³ This is a striking description of the fountain as a sonic device in its own right, constituted of the blended sounds of water, wind, and birdsong. Indeed, it is unclear whether the water *is* the birdsong as it pours from the birds’ beaks, or whether we are intended to imagine the individual voices of the avian species depicted, in tandem with the sound of the water and the wind-stirred leaves. But this sort of uncertainty is precisely the point: the elements and the animal species work together to produce a compelling soundscape which is an undeniable component of the reception of this fountain by an elite, informed viewer and/or reader. Moreover, Terése Nilsson has argued that the birds on the fountain may have been associated with Eros via an ancient topos, thus positing the love god as the prime cause behind the narrative whose theme is erotic love.⁴⁴ In an analogous vein, the birds shown on the Constantinopolitan windvane and the merry erotes together might have constituted the *raison d’être* and the very cause for a certain kind of weather.

Nilometers are yet another instrument type sometimes depicted with images showing bucolic elements. Generally featured within a category referred to as Nilotic imagery, Nilometers display the motif of abundance through floral and vegetal depictions, schools of fish, and flocks of birds, as a sign of the fecundity and fertility enabled by the annual flooding of the Nile.⁴⁵ The Nilometer itself was a device made to measure the rising levels of the eponymous river.⁴⁶ In the words of Strabo in the *Geography*, it was essentially “a well on the bank of the Nile constructed with close-fitting stones, in which are marks showing the greatest, least, and mean rises of the Nile; for the water in the well rises and lowers with the river. Accordingly, there

43 Jeffreys, trans., “Eumathios Makrembolites, Hysmine and Hysminias,” 180.

44 Nilsson, “Ancient Water in Fictional Fountains,” 288.

45 Recent literature on Nilotic imagery includes Barrett, *Domesticating Empire*; Barrett, “Recontextualizing Nilotic Scenes,” 293–32; Hachlili, “Iconographic Elements of Nilotic Scenes,” 97–142; and Versluys, *Aegyptica Romana*.

46 See Bonneau, “Nilometer,” 1794–95.

are marks on the wall of the well, measures of the complete rises...So when watchers inspect these, they give out word to the rest of the people, so that they may know; for long beforehand they know from such signs and the days what the future rise will be, and reveal it beforehand."⁴⁷

Several Egyptian temples in the Mediterranean evince water fixtures in which water periodically overflowed the temple basins and/or canals, thus replicating the action of the Nile on a smaller scale.⁴⁸ It is this sort of spillage that is fundamental to any reading of Nilotic images. Strabo's description lays out the processes involved in prognostication with the Nilometer. These involve subsets of "watchers" designated to inspect the water levels against the marks, and then to give notice to the general populace about them. A regular pattern of such observations of the marks, and of other signs, enabled the watchers to predict the rise in the levels of the river. The process, therefore, consisted of observation, informed speculation and prediction, and dispersal of the "signs." Perhaps a similar process also occurred vis-à-vis the Constantinopolitan windvane with its own set of observers, signs, and interpreters/predictors to understand and report on the weather.

In images, the Nilometer appears as a tall, column-like structure. It is often shown in the midst of, or in proximity to, animals, plants, mythological figures, and sometimes humans and other beings such as putti. The floor mosaic at Tabgha, for instance, shows the Nilometer soaring up amidst blooming plants and flowers, as though the instrument were itself a sign of efflorescence (Figure 18). A bird perches atop it, exposing its role as a support for avian (and possibly other) creatures.

We might imagine a similar soundscape around this instrument as the one imagined around fountains and the windvane. Some depictions show the personification of the Nile carrying a sistrum, a rattle-like instrument consisting of rods that move back and forth in a frame when shaken.⁴⁹ That a musical instrument is regarded as being an integral part of the river at a pivotal moment of its depiction—that is, in the period when it is expected to rise—is an important point. In this respect, the Nilotic depictions approximate images of Orpheus and David who are also shown carrying musical instruments whilst placed within nature. Thus, the Nile deity, like its mythical and biblical counterparts, reflects the integral role of sound within an

⁴⁷ Strabo, *Geography* XVII.I.48). Hereafter cited parenthetically in the text.

⁴⁸ Wild, *Water in the Cultic Worship of Isis and Sarapis*, and Siard, "L'Hydreion du Sarapeion C de Delos," 414–47.

⁴⁹ For more on the sistrum, see James McKinnon and Robert Anderson, "Sistrum" *Grove Music Online*, oxfordmusiconline.com.



Figure 18. Floor detail, fifth century CE. Mosaic, Church of the Multiplication of the Loaves and Fishes, Tabgha, Israel. Courtesy of www.HolyLandPhotos.org.



Figure 19. Floor detail, fifth century CE. Mosaic, hall of the House of the Nile Mosaic, Sepphoris, Israel. Courtesy of www.HolyLandPhotos.org.



Figure 20. Floor detail, fifth century CE. Mosaic, hall of the House of the Nile Mosaic, Sepphoris, Israel. Courtesy of www.HolyLandPhotos.org.

ecological framework involving the elements (in this case, the waters of the Nile), along with birds, plants, fish, and other human and non-human species.

One richly detailed example of Nilotic imagery that depicts the components also mentioned by Choniates re: the windvane, is the renowned mosaic at Sepphoris (Figure 19).⁵⁰ This was located in a public building dated from the fifth century CE in that town's urban centre. Mosaics originally covered the entire space of the building, but the most prominent room contained a sumptuously decorated floor depicting the festival of the flooding of the

50 See Bonneau, "Les fêtes de la crue du Nil," 49–65; Weiss and Talgam, "The Nile Festival Building and its Mosaics," 55–90; and Weiss, "The Mosaics of the Nile Festival Building," 7–23.

Nile. The image is divided into two tiers with the wavy waters of the Nile as the marker of separation between them. This depiction seems to draw upon longstanding perceptions of the river as a wandering, animate line.⁵¹ The Nilometer towers at the centre of the upper tier and is shown as a column placed on top of an arch covered by the waters. One figure (a putto?) bends over whilst another stands on its back in order to chisel the depths of the level measured thus far on to the instrument (Figure 20). A pun is embedded into this imagery since one putto was believed to stand for one unit measure of the Nilometer. It is also a fundamentally processual image as it displays one moment within a broader scheme involving the transformation of the water level, and the human/putto investment in observing and marking that transformation at that specific moment. This also comprises the only clearly functional scene in the upper tier; one that relays a discrete activity—measurement. The previous marks are visible on the instrument, again indicating a temporal period over which the waters rise and have been observed and marked.

The rest of the picture field teems with different species of birds, fish, fowl, plants, and at least one ostensible man, nestled within the waters. Above that wavering but nonetheless orderly space, figures resembling putti carry a wreath and a plant to the imposing figure at the top right who reclines on a hippopotamus, his arm outstretched. The reclining figure is believed to be a personification of the river Nile (Figure 19). He carries a vessel from which liquid, presumably the Nile waters, flow out to the tier below. The counterpart to the Nile is the figure reclining in similar fashion on the top left of the image. One arm of this figure rests on a basket whilst the other bears aloft a cornucopia spilling over with fruit. This may be read as a personification of Egypt (the accompanying caption is abraded but seems to suggest this), replete with vegetation owing to the bounties of the Nile. A causal and cumulative logic may be said to operate here: she is the earth that overflows with fruit owing to the river that overflows its banks. On the other hand, the figure may also be read as Euthenia, the female consort of the Nile, who personifies the abundance that the river enables. The productive tension enabled by the possibilities of this figure being either Egypt and/or Euthenia are investigated further below. But for now, we must ask how the upper tier relates to the lower.

If one is familiar with the processes entailed in the anticipated flooding of the Nile (delineated by Strabo above), then a sequence is discernible. Even

51 See the comments of Merrills, *Roman Geographies of the Nile*, 198–233.

as the Nilometer at the centre is marked by the putto (and at its highest level at that), the Nile flows across its banks. This phenomenon is depicted in a neatly gathered swathe of blue wavering lines falling out of the vessel at the far right, immediately below the Nile personification. This watery swathe winds its way as a double skein across the lower tier past birds, plants, a cheetah devouring a hapless beast, all the way to a lion biting into the neck of a buffalo amidst regularly spaced, leafy flowering plants. Meanwhile, above the predator and its prey, messengers speed toward Alexandria's city gate (identified by an inscription) to alert the populace to the imminent, or ongoing flooding. A monumental column is placed to the right of centre with a statue on top, pointing toward the city. This statue is yet another example of the network of prognosticating and deictic sculpted beings that towered over late antique cityscapes, such as Constantinople, as discussed earlier. The mark "IZ" next to it is the same as the measure marked by the putto on the Nilometer, thus conveying both the direction and the measure that should be announced to the citizens of Alexandria.

However, even if the vectors of putto and human activity are relatively clear, the relationship of the surrounding imagery vis-à-vis the Nile as both personification/deity and as river, is not. Since the Nile is shown here as the statuesque figure *and* the water body gradually rising and spilling over, is the entire surface of the image to be read as water, despite the fact that the iconographic conventions for that element are restricted only to one portion of the upper tier? Such a perception—of the Nile waters taking over the land—is certainly reflected in period sources. In the fourth century CE in a homily Basil of Caesarea singled out the Nile from all other rivers because “it is not of the character of a river when, like a sea, it inundates Egypt,” (*Hexameron* 3.6.)—a remark that Veronica Della Dora characterized as designating the Nile as “not-quite-river.”⁵² In the same vein in the eighth century CE, Andrew of Crete remarked on the excess abundance of the Nilotic waters—a point that Henry Maguire has located within a Byzantine discourse on the pagan and untrustworthy nature of this river on the banks of which idolaters supposedly dwelt.⁵³ Andrew of Crete remarks that

The river's waters, like a sea, are encircling the land, and irrigate the whole country...For this river, rising regularly in its annual floods, expands like an ocean, and makes the land watery and causes the earth, which a little while

52 See the comments of Della Dora, *Landscape, Nature, and the Sacred in Byzantium*, 216–18.

53 Maguire, *Nectar and Illusion*, 60.

before was green with an abundance of produce, to be given over now to heavily laden ships of burden. It permits the ploughs to work between the sails [of the boats], and ordains that the aquatic and the terrestrial creatures should herd together, whether herbivorous or carnivorous.⁵⁴

It is precisely this sort of *mélange* of earth and water, plants and flowers, carnivores and herbivores, that we find in the mosaic as well. The Nile takes on oceanic dimensions, blurring not just terrestrial and riverine boundaries, but distinct subsets of water as well. Accordingly, the distinctions between figure and ground in the mosaic are also effaced. Moreover, when we recall that this image was laid out on a floor, the very act of the human body walking across that surface might be said to have evoked the gradual rise, swell and fall of the waters; as the body advances, so does it approach, or move away from, the Nilometer, on which the highest level is being marked. And so does the water level ascend and/or spill over in tune with the general logic governing the image and the motion of the human body traversing it.

Conversely, could we also read the surface as ground cleared by the Nile for the putti, the human, the fish, fowl, plants, and not least, the Nilometer? Since the flooding historically occurred over a period of months between July and November, and entailed changes in natural phenomena (including changes in the colour of the water, the influx of certain species of fish, the flooding of swamps, etc.), the imagery in the upper tier might have been interpreted as such signs. And if the personification at the top left is Egypt, displaying abundance, or Egypt being transformed into Euthemia as a result of the floods, then are we witnessing the ongoing and current flooding of the Nile, even as our eyes rove over the image? And since the swathe of water winds its way to the lower tier, is this a visual indication of the *aftermath* of the flooding when abundance is further highlighted by predators getting their fill of food and floral plants multiplying across the floor? The image seems to suggest such a temporal progression even as it furnishes no unequivocal markers to demarcate the “before,” “during,” and “after” phases of the flooding.

Objects on a relatively smaller scale, in more intimate settings, can also manifest a similarly nuanced interplay between the surface and ground, and a potential source of bounty and its causative agents where the Nile is concerned. A textile at the Met depicts many elements of a typical Nilotic scene, but without the Nilometer (Figure 21). Despite the absence of that instrument, we find here not just a depiction of the usual bounties enabled by the flood (the fish, birds, and plants); we also find a pictorial commentary on the

54 See the passage quoted in Maguire, *Nectar and Illusion*, 60.



Figure 21. Nilotic scene, fourth–fifth century CE. Linen and wool, 17.5 × 14 cm. New York, Metropolitan Museum of Art. Courtesy of the Metropolitan Museum of Art's Open Access Initiative.

spillage and entwinement of otherwise discrete elements. For instance, the pair of fish in the third row at the top left are twinned, and the thread defining the border between the body and fin of the fish on the right extends itself to become a tendril of a plant, which then further abuts the breast of a bird. This is imagery composed of lines that exceed their own boundaries and jut up against other elements, much as the river waters are described as doing with the land and seas.

Nilometers and fountains are not decontextualized from their larger surroundings, particularly in terms of the elements they deploy and interface with. Descriptions of fountains invariably locate them within a garden space where along with trees, flowers, and birds, we also find mention of the nature of the water in and around the fountains, and the presence of winds. In the fourteenth century CE, Theodore Meliteniotes talks about a pool of water in a garden ringed by sculpted animals with water pouring into, or emanating from, their mouths, and the limpidity of the water being such as to furnish a veritable mirror for the trees, fruits, plants, shrubs, and flowers, “and whenever perchance the wind blew, it was possible to see the pool swelling with low waves, gently agitated because of the volume of the water.”⁵⁵ The water and wind act together to transform the visual impact of the fountain and its surroundings. Similarly, actual Nilometers were certainly transformed over the period of the rising Nile, when water swarmed around the monument. The changing colour of the water over the months, and the additional flora and fauna it brought by way of fish, fowl, and marine plants, should be regarded as indispensable parts of this structure during that particular time. Thus, monuments such as fountains and Nilometers were necessarily transformed—and viewed as such—across a seasonal spectrum owing to the changes that affected the elements constitutive of them, be those water or wind.

Winds in Byzantium

Both Choniates and Constantine of Rhodes invest the bucolic setting on the windvane with particular soundscapes. If Choniates endows it with the melody of springtime birds, then Constantine of Rhodes furnishes it with the vocal registers of the winds themselves. Indeed, Constantine alludes to the bronze female figure not as a visual sign, but as a *sonic* indicator, be the wind a sharp blast or a hard tone, as he puts it. This comment illustrates the fundamental entwinement of the windvane with its airy surroundings and an array of winds that could range from the tame to the raucous. “Air” and wind in Byzantium are somewhat studied,⁵⁶ but not in their *material* manifestations in the context of our monument. This section briefly examines

55 Dolezal and Mavroudi, “Theodore Hyrtakenos’ *Description of the Garden of St. Anna*,” 155.

56 See Lidov, ed., *Air and Heavens in the Hierotopy and Iconography of the Christian World*.

the sonic and pictorial associations of air, winds, and breeze that bucolic imagery was often perceived to sustain.

Constantine of Rhodes was drawing on an ancient discourse when he remarked on the winds' voices, since these were sometimes conceptualized as sonic beings in antiquity. This particular strain filters into perceptions of winds in Byzantium as well. Once again, Strabo's *Geography* proves useful: he informs us of the prevailing debates regarding the number of winds, with some arguing for two principal winds and others positing many more. Strabo claims that Homer—a staple in Byzantine curricula—differentiated between the quality of the winds based on how they sounded. So, according to Poseidonius,

when Homer speaks of the boisterous Zephyrus, he means what we call Argestes; that Homer's "clear-blowing Zephyrus" is what we call Zephyrus, and that Homer's "Argestes Notus" is our Leuconotos; for Leuconotos causes very few clouds, while Notus proper is somewhat cloudy: "Even as when Zephyrus divides the clouds of Argestes Notus, smiting with deep storm." Homer here means the "boisterous Zephyrus" which usually scatters the thin clouds assembled by Leuconotos (*Geography*, I.II.21).

The above passage is remarkable for the range of implied and manifested sounds linked to windy identities and meteorological actions. The wind Zephyrus, when deemed boisterous by Homer, indicates not himself (that is, Zephyrus), but the wind Argestes. But when Zephyrus' voice blows clearly, we may be assured it is he himself. Furthermore, when Zephyrus is boisterous, he blows apart the clouds gathered together by Leuconotos, a fellow wind, again indicating the consequences of sonic behaviour on the surrounding elements. The calibration of windy vocals is also useful to determining direction, since one of the fundamental roles of the winds was to indicate the cardinal points of the compass. This is the core of Aristotle's writings on wind which, in turn, formed the foundation for Byzantine ruminations on the subject.⁵⁷ A wind rose, or diagram outlining the directions of the winds, was understood to be indispensable to textual commentaries on this phenomenon.⁵⁸ Strabo's extrapolations, in his defence of Homer's meteorological knowledge, also inform us that the voice of a particular wind, or winds, determines the changing intricacies of the local skyscape (as Zephyrus, in his boisterous avatar, disperses the clouds).

57 Lackner, "Die aristotelische Meteorologie," 639–43. See also Valente, "The Doctrine of Winds," 231–47.

58 Valente, "The Doctrine of Winds," 243.

Winds also appear in the biblical books in many moods, right from “a gentle exhalation which surrounded God and manifested his presence...[to] a sign and witness to his power, majesty, and mercy...and an instrument of his anger.”⁵⁹ In the New Testament, Christ’s taming and rebuke of the winds during a storm as described in Matthew and Mark, served to demonstrate his power as equalling that of God in the Old Testament. In the Book of Revelations, the winds are located at the four corners of the earth where four angels “[hold] back the four winds so that no wind should blow on sea or land or on any tree.”⁶⁰ Here they are literally imprisoned by the angels in the farthest crannies of the earth, alluding to their tensility which allows them to inhabit both vast and minute spaces. Such a quality is also evoked in the *Odyssey* where the winds are compressed into a bag tied with string which Aeolus—their master—gives to Odysseus (*Odyssey*, 10.23–55).

A truism: wind is not easily visualized.⁶¹ Indeed, to claim to “see” wind is to claim to see its effects in the form of rustling grass, or bending trees, and such. Winds could be, and were conventionalized, as for instance on the frieze of the Athenian Tower where they are depicted as humanoid. However, the presence of wind was also apprehended and registered in terms of space both in written records of images and of actual landscapes or gardens in Byzantium. One could argue that wind—or at any rate, a gentle breeze—is a staple of the bucolic setting.

Consider the *Geoponika*’s discussion of the means of creating a pleasure garden. It advises, “If you want a garden you must choose a suitable location. It should be among the farm buildings if there is room; if not, then close to them, not only so that those within have the pleasure of seeing the garden, but also so the air about it, drawing on what rises from the plants, will make the property healthy.”⁶² The passage discusses the ideal location of a garden, among which criteria are not only the proximity of farm buildings, but also the quality of “the air about it.” Air, here, is no abstract phenomenon but an essential constituent governing the aesthetic and sensual utility of the space being described. By the same token, an entire chapter devoted to the olive contains a section on the kind of air suitable for this fruit (“hot and dry”), before going on to delineate the effects of winds on them, and on fruit trees in general:

59 See the discussion of the winds in the Bible in Corbin, *A History of the Wind*, trans. Peniston, 65.

60 Corbin, *A History of the Wind*, 66.

61 See the study by Nova, *The Book of the Wind*.

62 Dalby, trans. and ed., *Geoponika*, 200.

it is to be noted that the winds have effect not only on plants but on everything; strong and violent winds are in opposition to all plants; temperate and mild winds favour all plants, but particularly olives. You will find especially flourishing those olive plantations that the breath of the wind is able to enter, the spaces between them being broad so that the wind can blow through easily...they welcome gentle winds, which do not go to waste but penetrate each tree alike, nourishing them and awakening the growth of the plant.⁶³

Just as in the account of the pleasure garden, the passage on olive trees does not simply inform us of the advantages and disadvantages of different kinds of winds; rather, it posits wind as a space-filling component. The areas between the olive plants are not regarded as gaps or blanks, but as containers for the entry and action of beneficent winds. And these do not merely blow in and out, but “penetrate” each tree, thus taking up residence in them in order that they be nourished. The winds here are indispensable to the forms of the trees, even if we do not detect their shapes as clearly or visibly as the vegetation with which they are entwined.

A similar approach to the apprehension of wind is found in contemporary descriptions of images. Choricus’ elaborate ekphrasis on the church of St. Sergius at Gaza introduces an idyllic scene in the bucolic mode right after he furnishes an account of the religious imagery in the space which, he says, depicts the Theotokos, her son, and an imperial figure. Surrounding these conventional Orthodox portrayals, the lateral apses are said to be redolent of

ever-burgeoning trees full of extraordinary enchantment: these are luxurious and shady vines, and the zephyr, as it sways the clumps of grapes, murmurs sweetly and peacefully among the branches...The artist has rightly rejected the birds of the poets, the nightingale and the cicada, so that not even the memory of these fabled birds should intrude upon the sacred place; in their stead he has artistically executed a swarm of other birds and, [in particular,] a flock of partridges. He would, perhaps, have rendered even their musical sounds, had not this hindered the hearing of divine things.⁶⁴

Choricus’ account includes all the elements we find on the windvane (as per Choniates), including a variety of birdsong particular to certain species excluding one (the nightingale). It also reads wind *into* the image by means of the swaying grapes and its imagined sound (“sweet murmur”). Most interestingly, as in the *Geoponika*, here too we find the perception of wind in what viewers would normally see as empty space—“among the branches”—thus

⁶³ Dalby, trans. and ed., *Geoponika*, 185.

⁶⁴ See the excerpt in Mango, *The Art of the Byzantine Empire*, 62.

rendering our normative ideas about “background” or “space” or even “absence” in an image as, in fact, the contrary; instead it is a container for an elemental, if invisible force, be it gentle or rough or something else in between.

We recall that a similar phenomenon obtains in the depiction of the flood waters in the Sepphoris mosaic discussed earlier; “figure” and “ground” relations were potentially obscured because of the imagined and imminent spilling over of the iconography of water. Quite apart from filling in spaces, wind also had the disconcerting potential to transform public images and monuments entirely. One thinks of George Pachymeres’ remarks about one such violent wind having caused the fall of the feathers adorning the helmet of the equestrian rider statue atop the column of Justinian. The statue was literally re-sculpted and altered by the action of that gusty wind.⁶⁵

In his ekphrasis of the church of St. Stephen at Gaza, Choricus performs yet another move bringing together the sonic within the bucolic, but this time evoking the presence of actual, as opposed to perceptual, winds in “a space reserved for the bishop’s salutation, where, as Homer would have said, are ‘shrill winds blowing’, Boreas and Zephyr, vines and clear water and all kinds of plants; where the good priest, with voice flowing sweeter than Nestor’s (according to Homer), greets the entrants with open heart and smiling countenance.”⁶⁶ The actual presence of winds—or breezes—is also invoked by Procopios in his description of an area near the Golden Horn where the Emperor Justinian apparently founded a market, and where those promenading can “rejoice in the view of the sea and revel alike in the breezes wafted from the water and in those that descend from the hills which tower over the land.”⁶⁷

The winds were invoked as integral components of architectural definition. In his ekphrasis of Hagia Sophia, Paul the Silentiary describes four piers in that church, above which are bent arches of enormous size. Paul tells us, “one turns towards the wings of Zephyr, another to Boreas, another to Notus, another rises upright toward fiery Eurus.”⁶⁸ Here, each of the four major cardinal points is invoked by the winds and their names. Furthermore, these are advanced as winged beings, each with its own characteristics. The arches described are posited as signposts, turning to a particular wind as if

⁶⁵ Mango, *The Art of the Byzantine Empire*, 113.

⁶⁶ Mango, *The Art of the Byzantine Empire*, 69.

⁶⁷ Procopios, *On Buildings*, bk. 1:8; ed. and trans. Dewing and Downey.

⁶⁸ See the excerpt in Mango, *The Art of the Byzantine Empire*, 82–83.

in homage to it. Further on, Paul conjures “the murmuring south wind and the rainless north.” The sounds here are inseparable from the directional vectors of the elements and are woven into the multilayered sonic texture of Hagia Sophia itself.

Finally, we see the winds visualized on an unlikely object: a piece of dough shaped into a cake depicting a wind diagram, according to an ekphrasis by Christopher of Mytilene.⁶⁹ This fantastic cake is said to be replete with the signs of the zodiac and the four seasons.⁷⁰ Whether it actually existed or not is a moot point; what does concern us is the fact that a description of it exists, and that it serves to remind us of the many media, spaces, and contexts in which an element such as the wind could be imagined to function. As per Mytilene’s ekphrasis, the eggs on the cake denote the constellations and zodiac signs. These are distinguished according to type and size: duck eggs delineate the Pleiades, and hen eggs delineate the planets, whereas “the larger eggs” may be said to depict bigger entities such as Orion. Amidst this plethora of ova, those signifying the winds are said to be the eggs positioned at the cardinal points. Then Christopher proceeds to tell us that Zephyros blows from the west, Apeliotes from the east, Notos from the south, and the Arctic wind from a self-explanatory direction. The four extremities at the edge of the cake capping the four eggs (the winds) are posited as the four seasons, thus bringing the entire confection in line with the cosmos and its arrangement. In it, the winds are the same object-type (eggs) as the constellations and planets; yet they are differentiated from the latter by their position and directional attributes. They fill space and are imagined as structural elements, indispensable to the composition of the cake, and to the cosmos imagined as that confection.

Winds—or breezes—should be visualized as a part of bucolic scenes, animating their blank spaces, wafting in and about the foliage, and infusing the depictions with their own particular sonic personalities to mingle with the soundscapes of the trees, birds, shepherds and other beings visualized. Drawing from the ekphrases of Choricus above, and the general evocation of winds in a variety of spaces in Byzantium, we might picture them as components of the scenes on our windvane. These clearly had “real” manifestations as they blew around that structure. But they might also have been appreciated as a pictorial element embedded into the images adorning the

69 “with dough the zodiac cycle, in a circle; to his cousin”; Christopher of Mytilene, *The Poems of Christopher of Mytilene and John Mauropous*, ed. and trans. Bernard and Livanos, 73–79.

70 Magdalino, “Cosmological Confectionary and Equal Opportunity,” 1–6.

windvane, wafting through the trees and all about the milking shepherds and mischief-making erotes, unseen but nonetheless present.

Skyscape

In closing this chapter, I wish to linger on one neglected aspect of the potential reception of the windvane: the skyscape. The sky forms a natural backdrop to it, just as the Nile waters form a fluid and changing background, middle ground and foreground to actual Nilometers. It is obviously difficult to pinpoint with precision the nature of the skies of Constantinople on any particular day. Nonetheless, the immensity and changing shades of the firmament must have been a component of the visual reception of the towering structures in the city. Sources corroborate this point. Paul the Silentiary certainly has it in mind when he compares the curve of Hagia Sophia's dome to "the firmament which rests on air" because the dome has no sharp pinnacles and swells gently as it rises.⁷¹ The upward thrust of the dome is perceived to be in concert with the firmament which it emulates.

Nowhere do we find a stronger appreciation of the sky as an interface for tall monuments than in Constantine of Rhodes' account of the seven wonders of Constantinople. We come full circle in evoking his words once more in this conclusion, this time in the context of the columns that graced the city. These, Constantine tells us, are "higher than the clouds."⁷² The column bearing the equestrian statue of Justinian shows him "stretching out his hand to the sky...he seems to touch the chariots of the moon."⁷³ The porphyry column topped by the statue of Constantine is said to carry its burden much as Atlas does "the arc of heaven," and its splendour "equals the stars."⁷⁴ Even the vault of the Senate building is said to "rise up into the sky"⁷⁵ and the statue of Athena on a column is said to be "stretching out her hand to the sky."⁷⁶ In each instance, the column—and by extension, the objects it bears—are read in relation to the moon, the stars, and the sky.

In reading these descriptions, we should consider Roland Barthes' articulation of open-air performances which enable a "spectator's immersion

⁷¹ See the excerpt in Mango, *The Art of the Byzantine Empire*, 82–83.

⁷² Constantine of Rhodes, *On Constantinople*, trans. James and ed. Vassis, 21.

⁷³ Constantine of Rhodes, *On Constantinople*, trans. James and ed. Vassis, 21.

⁷⁴ Constantine of Rhodes, *On Constantinople*, trans. James and ed. Vassis, 23.

⁷⁵ Constantine of Rhodes, *On Constantinople*, trans. James and ed. Vassis, 25.

⁷⁶ Constantine of Rhodes, *On Constantinople*, trans. James and ed. Vassis, 29.

in the complex polyphony of the open-air (shifting sun, rising wind, flying birds, noises of the city)."⁷⁷ Barthes delineates performances in the open as being marked with a certain fragility because they are, by nature, singular and irreplaceable owing to the contingencies that such an ambience necessarily entails.⁷⁸ Each of the structures examined in this chapter—fountains, Nilometer, and the windvane—function in precisely such an ambience (even if the Nilometer is more accurately a riverine rather than an open-air monument).

As far as the windvane is concerned, its relationship with the winds and the sky (and the other things in the firmament, such as stars, and creatures such as birds) was fundamental to its very identity and role. Indeed, it is possible that the images on it were not always as clearly visible as those other elements; the birds perching on it and the immensity of the changing skies and their colours might have been far more striking to viewers than the depicted birds, humans, creatures and their activities etched on the structure. In fact, the windvane is the scientific measure and expression of the *tension* between those depicted creatures, their activities, spaces and seasonal specificity, and the actual urban space of Constantinople, the activities performed therein, and the seasonal changes evinced in the capital over time. Accordingly, the bucolic mode in this context also acts as the mediator between the imagined scenes laid out on our monument, and the actual landscape the latter inhabited. Finally, even as the windvane signalled the winds and the weather (and thereby was one means of asserting some degree of control over the latter), it simultaneously alluded to the contingencies that weather entailed for the humans and nonhumans who once inhabited Constantinople.

⁷⁷ Barthes, *The Responsibility of Forms*, trans. Howard, 79.

⁷⁸ See Barthes' formulation applied to the phenomenon of Greek drama in Meineck, *Theatrocracy*, 52–78. I am grateful to Margaret Mullett for directing me to this source.



Figure 22. David playing the *psalterion*. Paris Psalter, Paris, Bibliothèque nationale de France (BnF), MS gr. 139, fol. 1v. Courtesy of the BnF.