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Seasons and Human Health in the Hippocratic *Airs, Waters, and Places* and Hesiod's *Works and Days*

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Abstract

This essay focuses on the doctor's knowledge of seasonal patterns and their impact on human health in the Hippocratic *Waters, Airs, and Places*. Knowledge of the seasonal factor requires the doctor to master the general and the particular, to take the yearly period and scan it in two bi-seasonal periods with focus on summer and winter as the expected times for the outbreak of the diseases. Such looking-forward analytical operation is inscribed in the doctor's capacity for *pronoia*. Due parallels are drawn between the doctor and the seer, on the one hand, and the Presocratic philosopher, on the other. Attention is also given to the early description of winter in Hesiod's *Works and Days*: with its detrimental effects on human (and animal) bodies, it emerges as a poetic antecedent of the Hippocratic doctor's knowledge.

Keywords: Hippocrates; ancient medicine; seasons; health; Hesiod, *Works and Days*.

In ancient Greek literature, medical and not, the Hippocratic *Airs, Waters, and Places*¹ offers the most developed account of the effects of the

1. In line with the upcoming discussion, it should be remarked that *Airs, Waters, and Places*, found in manuscript V (Vaticanus gr 276), is now the accepted title for this work, but there existed different titles, some of which included also "of seasons" (*hōrōn*). For instance, the most ancient and complete catalogue of Hippocratic treatises by Erotian, a

environment on human beings². The treatise is directed to the itinerant doctor. When he arrives to a new place, he needs to understand it according to a set of five influential environmental variables which constitute a basis for his future diagnoses: the seasons, the winds (common to all places and local), the quality of the water, the situation of the place with respect to both the rising/setting of the sun and the winds, and the lifestyle of the inhabitants. Only the consideration of these variables will enable the doctor to know both “the diseases peculiar to the place” and “the particular nature of common diseases”, and to choose the right treatment, without making mistakes. On this view, medical practice interweaves knowledge of the general with the particular: for if the doctor knows all the winds with respective qualities and effects on the human beings, he also knows the local winds. And, likewise, while he comprehends the general features of common diseases, he also needs to grasp the particular nature, with which they manifest themselves in a locality, due to the specificity of the environment. Medical diagnosis is related to, so to speak, environmental diagnosis, from which it depends. But knowledge of the climate does not merely imply to consider the climactic factors (*i.e.*, temperature, rain precipitation, etc.) in terms of cause and effect. According to the doctrine in *Airs, Waters and Places* to be a successful practitioner the doctor needs to *attune* himself to the yearly *seasonal pattern* looking for specific signs that will help him predict what type of epidemics will arise—particularly, in summer or winter³. This essay aims to pursue such specialized knowledge of the itinerant doctor. That is, it discusses the capacity to predict the insurgent diseases based on the analysis of the actual course of seasons⁴ in a given locality with

1st cent. AD doctor, labels this work as *On Places and Seasons* and lists it among those treatises that deal with aetiology (*aitiologika*) and nature (*physika*); *cf.* Craik 2015: 8.

2. Among Hippocratic treatises, also *Epidemics* I-III looks at the effects of the environment on human beings, but with a stress on meteorology and the symptomatology of diseases and a focus on the island of Thasos hence presenting a more limited and empirical treatment than the general analysis of *Works, Airs and Places* (Giurovich 2004: 54-55); *cf.* also *Aphorisms* 3.1-23.

3. See below.

4. Significantly, the seasons, which, included in some alternative titles of the treatise (n.1 above), constitute the first factor to be mentioned in the list of five at the beginning of the treatise, and the last one to be discussed after winds and waters at the end of the first part that deals with the effects of the environment on health. See Hp. *Aēr*: 1.2-3, and chapters 10 (on the four seasons and their climatic conditions) and 11 (on seasonal changes).

respect to an optimal model of seasonal sequence pointing to the meaningful variables (such as heat or cold and rain precipitation and their excesses or lacks, and abrupt temperature changes) that help the doctor to establish such a prognosis, an aspect that finds an antecedent in Hesiod's *Works and Days* and that in the literature about *Airs, Waters and Places* does not appear to have received adequate attention⁵.

1. Interpreting the course of seasons: doctors, seers, and philosophers

Epidemics 2 offers an interesting comment for the present line of inquiry although it targets the phenomenology of diseases in a specific locality and thus transcends the general outlook of *Waters, Airs, and Places*. We learn that the “year has a cycle (*periodos*) of diseases, just as the day has of one disease”⁶. In other words, the year with its internal partition into seasons and the climatic changes and variables associated to them is the larger chronological framework to consider for the insurgence and course of medical problems in the same way as the day offers the chronological framework for the rise and development of a single disease. The doctor is thus a type of foreteller albeit one that interprets climatic, objective signs in opposition, we could add, to a seer that works with erratic omens, as the cry of birds or oracular responses⁷. The anticipation of diseases based on seasonal factors is an ex-

5. While the literature on this treatise is immense, to my knowledge, the most relevant studies do not offer specific treatment of the doctor's expertise to analyze the current course of seasons against an optimal one and, particularly, of the specific by-seasonal scanning of the yearly period that enables him to come up with a medical interpretation of the climactic condition.

6. Hp. *Epid.* 2.1.4. (ὥς τοῦ ἐνιαυτοῦ περιόδον ἔχοντος τῶν νούσων οἷον ἡ ἡμέρη τῆς νούσου).

7. See Hp. *Prog.* 2.110.2-7. On the relationship between the doctor's capacity for anticipation and divination, see Langholf 1990: 232-257, especially 256; on the rationality that characterizes the doctor's *pronoia* and constant moving between the general and particular, Giurovich 2004: 113-120. As this author remarks, «*pronoia* is founded on prior knowledge [*“pro” –eidenai, “pro”-gignoskein*] ... in the Hippocratic system there is no anticipation if there is no prior knowledge; what the doctor anticipates is what he has seen to happen» (113); on the explicit contrast between soothsayers and doctors in the Hippocratic corpus, see Jouanna 1999: 183-184.

pression of the doctor's "*pronoia*", the tool of the art which enables him to know «what is, what has been, and what will be» in relation to the patients. And to be accurate, the *pronoia* based on the seasons requires the doctor to detect actual climate changes with respect to an ideal seasonal pattern, and hence to possess a form of knowledge that is dynamic and projected forward rather than static.

The seasonally-based approach to the anticipation of diseases prescribed in *Airs, Waters, and Places* seems to represent a new path, or at any rate, to introduce a new stress in a medical art that was rather concerned with the body, its composition, and regimen and that—true—acknowledged the causality of external factors (*i.e.*, heat and cold)⁸ but had not yet pursued systematically the influence of the climate and its changes on human health. The writer seems to underscore the novelty of this perspective and to anticipate a possible resistance when he claims the pertinence of astronomy to medicine. For he believes that, to assess correctly the pattern of seasons, the doctor needs to know when each season starts and ends (along with their respective standard meteorological conditions) and such discrimination depends on the observation of the movement of the sun (*i.e.*, equinox and solstice) and the rising and setting stars (Pleiades, Arcturus)⁹. In chapter 2 of *AWP* we read,

εἰ δὲ δοκέει τις ταῦτα μετεωρολόγια εἶναι, εἰ <μη> μετασταίη τῆς γνώμης, μάθοι ἄν ὅτι οὐκ ἐλάχιστον μέρος συμβάλλεται ἀστρονομίῃ ἐς ἰητρικὴν, ἀλλὰ πάνυ πλεῖστον· ἅμα γὰρ τῆσιν ὥρησι καὶ αἱ κοιλίαι μεταβάλλουσι τοῖσιν ἀνθρώποισιν.

If one believes that all this belongs to meteorology¹⁰, if he should not change opinion, he will still find out that astronomy does not minimally contribute to medicine but to the greatest degree indeed. For with the seasons human cavities suffer change¹¹.

8. See for instances the programmatic differentiation in *Diseases* 1.1 of causes present in the body (such as bile and phlegm) or external to it (such «heat which overheats and cold which over-chills»).

9. On the link between the phases of the stars and the definition of the seasons, see Wenskus 1990: 97.

10. On the additional meaning of *meteorologika* in light of the critiques of astronomy due to the subversion of traditional beliefs in the divinity of stars, see Jouanna 1999: 27-29.

11. Hp. *Aër.* 2.21-26. All translations of Hippocrates' *Airs, Waters, and Places* are by the author based on the 1996 Jouanna's edition in the Belles Lettes (Jouanna 1996).

The treatise itself does not explicitly elaborate on what this change of the digestive organs consists in at each season but it can be partially grasped in the discussion carried out to illustrate the effects of, respectively, hot and cold winds onto the inhabitants of two case-cities, also introduced at the beginning of the treatise. If the hot wind loosens the bowels, the cold wind contracts them with, respectively, positive and negative effects on health. For, we understand, if the bowels are loose, acute diseases such as ardent fevers are not likely to occur, but the opposite happens when the bowels are contracted and tense. Then, many acute diseases arise and the lungs become inflamed¹². Be that as it may, it is clear that for the author of *Airs, Waters, and Places* the environment, particularly the temperature of the wind along with its effect on the temperature of the water to be ingested¹³, plays a crucial role on the state of the intestine and that such a state is a key factor for individuals' overall health. In this vision, the body is subjected both to the "action" of the air that surrounds it, *i.e.*, the quality of the aerial environment and the tactile pressure it exercises by means of the winds, and to the action of the ingested water. Thus, the body may be "climac-tically" affected from the outside as well as the inside.

Knowledge of the seasons, we have seen earlier, is tied to the doctor's power to anticipate upcoming diseases, allowing him to rival with other types of seers in the ancient world but it also aligns him (with respect to the consideration of objective, meteorological signs) to the Presocratic philosophers. As Jouanna has recently remarked, in *Airs, Waters, and Places* «medical knowledge is coupled with the knowledge of the natural philosopher»¹⁴ and in the doctor's power of anticipation of diseases, based on the course of seasons, we can see, for instance, the reflection of the skills of Thales of Mi-

12. See Hp. *Aër.* 1.6-9; for a city exposed to hot winds 3.3-30; for a city exposed to cold winds 4.1-20.

13. Although not stated explicitly, the doctor is aware of the causality that informs the environmental factors. For by framing the discussion of cities in terms of their exposure to cold (or hot) winds he knows that the wind affects the water. That is, cold winds make the water cold, the ingestion of which, along with the exposure to cold wind, also affects the human being's body, but from the inside rather than the outside.

14. See Jouanna (2012: respectively 159 and 163), where he states that «the Hippocratic doctor's discussion agrees with pre-Socratic naturalism»; more generally, on the influence of Presocratic philosophy on the Hippocratic *corpus*, see Longrigg 1993: 92-103.

letus. In *Politics* Aristotle tells us that while still in winter Thales understood that in the upcoming summer there would have been a plentiful production of olives and went ahead to secure for himself all the olive presses of Miletus and Chios, which, when the season of the harvest arrived, he eventually lent at a higher fee making a large sum of money¹⁵. Unfortunately, we do not possess further information about how Thales was able to predict the upcoming abundant crop of olives. The prediction involved astronomical observations and their association to meteorology paired to the knowledge of the sequence of the seasons and their impact on the fructification process of the olive trees. The Hippocratic doctor is held to possess similar skills, not for what pertains to the production of olives, of course, but with respect to the onset of human diseases based on the individual's body responses to climactic conditions. But there is another feature too that aligns the knowledge of the Hippocratic doctor to that of the natural philosopher, besides the power of anticipation on the basis on meteorological phenomena. For, like the natural philosopher, also the doctor of *Airs, Waters and Places* shows to consider the environmental factors at stake in his assessment of human health as interdependent and thus offers a systemic view of natural phenomena¹⁶.

II. Optimal seasonal sequences and unhealthy deviations

Knowledge of the seasons is dealt in chapter 10 of *Airs, Waters, and Places*. The author writes

Περὶ δὲ τῶν ὥρέων ὧδε ἂν τις ἐνθυμεύμενος διαγιγνώσκοι ὀκοῖόν τι μέλλει ἔσεσθαι τὸ ἔτος, εἴτε νοσερὸν εἴτε ὑγιερὸν. Ἦν μὲν γὰρ κατὰ λόγον γένηται τὰ σημεῖα ἐπὶ τοῖσιν ἄστροισι δύνουσί τε καὶ ἐπιτέλλουσιν, ἐν τε τῷ μετοπώρῳ ὕδατα γένηται καὶ ὁ χειμῶν μέτριος καὶ μήτε λίην εὐδιος μήτε ὑπερβάλλων τὸν καιρὸν τῷ ψύχει, ἐν τε τῷ ἥρι ὕδατα γένηται ὠραῖα καὶ ἐν τῷ θέρει, οὕτω τὸ ἔτος ὑγιεινότατον εἰκὸς εἶναι.

Regarding the seasons, if one considers the following points he will be able to decide whether the year will be unhealthy or healthy. If the signs are normal when the stars set and rise; if there are rains in autumn, if the

15. Arist. *Pol.* 1.1259a.

16. See n. 13 above.

winter is moderate, neither too mild nor exceedingly cold, and if the rains are appropriate to the season in spring and in summer, the year is likely to be very healthy¹⁷.

For a year to be healthy the optimal meteorological phenomena should be aligned with the rising and the setting of the stars and should reflect the meteorological standards of each season. The autumn should be rainy, the winter moderate, namely, neither warm nor extremely cold, and there should be the appropriate amount of rain in spring and summer. Significantly, in this passage the consideration of seasons in terms of temperature and rain precipitations points to the importance of water, which is one of the five environmental factors, outlined in the beginning of the treatise, and is later claimed «to hold a very great influence upon health»¹⁸.

The year, however, will not be healthy when «the winter prove dry and northerly, the spring rainy and southerly», that is, when winter is without precipitations and extremely cold and spring has abundant precipitations and is hot, warmer with respect to its standard temperature. In this case, the author writes, one must expect an unhealthy summer, with an onset of blood infections and dysentery¹⁹. For, he explains, the sudden heat in combination with the southerly hot wind on the earth soaked by rain will lead to feverish conditions in the summer on account of the excess of humors in the body. Filling the gap of information in the text, we must assume that not only is the radical change from an extremely cold winter to a hot spring unhealthy, but also that, more importantly, the evaporation of the water from the earth results in a steamy air affecting the humors in the body. And that this climatic pattern is particularly dangerous for people with a phlegmatic constitution shows that the doctor needs to consider the effects of different climatic variables on different human constitutions²⁰. Thus the environmentally-bent discussion of

17. See Hp. *Aër*: 10.1-2.

18. Hp. *Aër*: 7.5-6 (πλείστον γὰρ μέρος συμβάλλεται ἐς τὴν ὑγιεινῆν).

19. Hp. *Aër*: 10.11-14 (ἦν δὲ ὁ μὲν χειμῶν ἀρχμηρὸς καὶ βόρειος γένηται, τὸ δὲ ἦρ ἔπομβρον καὶ νότιον, ἀναγκη τὸ θέρος πυρετῶδες γίνεσθαι καὶ ὀφθαλμίας καὶ δυσεντερίας ἐμποιεῖν).

20. On the importance of understanding human nature and, in addition, the individual nature of each patient, particularly her natural capacity to react, see Jouanna 1999: 345-346, cf. Hp. *Hum*. 16: «The constitutions of men are well or ill adapted to the seasons,

Airs, Waters, and Places presupposes the humoral conception of the human body presented in *On the Nature of Man* or similar humoral theories in other Hippocratic texts. In *Diseases 1*, for instance, all diseases are claimed to depend on the body constituents, bile and phlegm, which become affected both by internal factors such as food and drinks and by external ones such as hot and cold. Similarly, *Affections 1* points to bile and phlegm as causes of diseases when they become too dry or too wet or too hot or too cold in the body under the impact of a number of factors which include, besides those mentioned in *Diseases 1*, also «smell, sound, sight and vengery»²¹—hence, interestingly, we understand that both natural and man-made environments have an impact on human health. But it is *On the Nature of Man* that gives us a more complex view of the body both in terms of its internal humoral constituents as well as in terms of their relation with the environment. In this treatise the body is conceived as composed of four basic humors, namely blood, phlegm, yellow bile and black bile from the proportional and optimal mixture of which depends health. Any unbalance in their quantity, quality, and mixture provokes pain and disease²². Further, and somehow complementing the information in *Airs, Waters, and Places*, each of the humors tends to predominate at a specific season: blood in spring, yellow bile in summer, black bile in autumn, and phlegm in winter²³. So the phlegmatic individuals mentioned in *Airs, Waters, and Places* and more prone to febrile conditions in the summer are ones in whom the mixture of the humors does not reflect the optimal state for that season. For instead of presenting a prevalence of black bile, the mixture is dominated by phlegm, which, according to the normal and healthy set of co-

some to summer, some to winter; others again to districts, to periods of life, to modes of living, to the various constitutions of diseases».

21. See, respectively, Hp. *Morb.* 1.2 (Αἱ μὲν οὖν νοῦσοι γίνονται ἡμῖν ἅπασαι, τῶν μὲν ἐν τῷ σώματι ἐνεόντων, ἀπὸ τε χολῆς καὶ φλέγματος, τῶν δ' ἔξωθεν, ἀπὸ πόνων καὶ τρωμάτων, καὶ ὑπὸ τοῦ θερμοῦ ὑπερθερμαίνοντος καὶ τοῦ ψυχροῦ ὑπερψυχοντος) and *Aff.* 1 (νοσήματα τοῖσιν ἀνθρώποις ἅπαντα γίνεται ὑπὸ χολῆς καὶ φλέγματος. ἡ δὲ χολὴ καὶ τὸ φλέγμα τὰς νούσους παρέχει ὅταν ἐν τῷ σώματι ὑπερθερμαίνηται ἢ ὑπερψύχηται. πάσχει δὲ ταῦτα τὸ φλέγμα καὶ ἡ χολὴ καὶ ἀπὸ σίτων καὶ ποτῶν, καὶ ἀπὸ πόνων καὶ τρωμάτων, καὶ ἀπὸ ὀσμῆς καὶ ἀκοῆς καὶ ὄψιος καὶ λαγνεῖς, καὶ ἀπὸ θερμοῦ τε καὶ ψυχροῦ). For these examples and the upcoming one, see Lloyd 1984: 25 (originally published in 1955).

22. Hp. *Nat. Hom.* 4.

23. See Hp. *Nat. Hom.* 7.

rrespondences between body humors and seasons predicated in *On the Nature of Man*, should prevail in winter. Be that as it may, the practitioner of *Airs, Waters, and Places* needs to consider the seasonal phenomena in relation to the nature of the specific individual, which may be unbalanced from the start and hence particularly vulnerable to the seasonal deviations from a healthy course of the year.

Regarding the doctor's power of medical forecast, however, he can also predict that the diseases will subside and cease spontaneously by observing the association of determinate meteorological phenomena to the seasonal behavior of the stars. A case in point is when at the rising of the Dogstar in summer «stormy rains occur and the Etesian winds blow»²⁴. From Aristotle's *Meteorologics* we learn that the etesian winds blow from the North after the summer solstice and that they are cold and dry. Hence, presumably, they quench the heat and prevent the formation of mist from the earth in the air while drying up the existing humidity.²⁵ And in holding this double effect, they bring health. When these winds blow, then, a healthy autumn will follow the unhealthy summer.

Other abnormal seasonal patterns bring different conditions. For instance, if the winter is southerly, rainy and mild, that is, unbalanced with respect to the moderately cold temperature that should characterize it and to the moderate amount of rain, and if it is followed by a northerly, dry and cold spring, then pregnant women that are expected to give birth in spring are likely to miscarry —with the inversion of seasonal temperatures and changes in rain precipitation leading to harmful effects on pregnancy. And if the women give birth, their children will be feeble and sickly and prone to death. If, by contrast, they survive, they will be affected by lifelong weakness and constantly vulnerable to diseases²⁶. Again, phlegmatic people will be subject to dysenteries and so will women too on account of the humidity of their nature²⁷. Due to their respective constitutions, bilious and elderly people will suffer distinct

24. Hp. *Aër.* 10.25-28.

25. Arist. *Mete.* 2.361b36-362a31.

26. Hp. *Aër.* 1.32-40.

27. Hp. *Aër.* 10.43-6.

diseases, and (the latter) even paralysis and death²⁸. A dry summer (likely compensating for the rainy winter) will make these diseases cease, but in the case of rain the diseases will persist²⁹. Let these examples suffice to illustrate how a deviation of the period encompassing winter and spring with respect to an optimal, healthy sequence leads to the onset of specific conditions. Chapter 10 of *Airs, Waters, and Places* offers a systematic view of possible patterns of seasons with relative medical outcomes for specific categories of individuals and to the discussion of the morbid sequence of winter and spring, just reviewed, it then moves to look at the sequence of summer and fall³⁰.

In tune with the doctor's "integrative" outlook, pointed out earlier, knowledge of the seasonal variables and their effects on human health and constitutions is combined with the medical prognostics based on other environmental factors. For we are told that an healthy position of cities with respect to the sun and the winds and the use of good waters can counterbalance the sickening effects of a morbid sequence of winter and spring while a marshy territory, in a less than ideal exposure to the sun and winds, will, by contrast, aggravate them³¹. Based on previous chapters of the treatise, here the writer means with a rather synthetic claim that the city should be oriented toward the rising of the sun and hence shielded from the extremes of heat and cold brought by summer and winter winds³². For the exposure to the East would not only imply beneficial winds along with a moderate temperature — neither too hot nor too cold— it would also benefit the area's water, making it «clear, sweet-smelling, and soft». Indeed, the rising sun has the effect of purifying the water. A city like this resembles spring³³, that is, it is not subjected to the dangers of stark seasonal changes. And while it is the patterns of seasons with their deviations from the ideal course that cause diseases, summer and winter emerge as the key periods in which diseases are expected

28. Hp. *Aër.* 10.46-51. For a discussion of the physiological processes causing diseases in the Hippocratic corpus, the different modes of explanation, and the doctor's systematic view, including environmental factors, see Hankinson 2018: 89-118.

29. Hp. *Aër.* 10.67-68.

30. Hp. *Aër.* 10.73-98

31. Hp. *Aër.* 10. 61-64.

32. See Hankinson 2018: 114.

33. Hp. *Aër.* 5.

to break out³⁴. The manifestations of diseases along with the stabilization of the medical conditions come at the end of a bi-seasonal period —winter and spring for the outbreak of diseases in the summer and summer and fall for the outbreak of diseases in the winter. It is thus during the critical unfolding of each of the two pairs of seasons —respectively winter and spring, and summer and fall— that the disease begins and then ripens to finally explode in the following season.

III: A poetic antecedent: the advent of winter in Hesiod's Works and Days

If in ancient Greek literature, medical and not, *Airs, Waters and Places* constitutes the most developed account of the impact of seasonal factors on human health, the knowledge of the medical doctor accounted for in this treatise intersects the practical knowledge of the farmer as expounded in Hesiod's *Works and Days*. It is in this didascalical poem, dating to around 700BC, that for the first time we find the notion that human life is embedded in an environment, which can affect it causing diseases and death and that due attention is paid to the change of seasons and particularly to the phenomena characteristic of winter³⁵. The *Works and Days* is directed to instruct the farmer to perform the right activities at the right season and to understand nature through the rising and setting of the stars and other natural signs—hence foreshadowing the association between seasons and astronomical and meteorological phenomena that the Hippocratic doctor must take into consideration for his exercise of *pronoia*. Winter is a difficult month for the farmer. Constrained to inactivity, he needs to stay inside the house and protect himself and his animals from the brutal cold. A long and unusual passage describes the meteorological phenomena that characterize winter along with the precautions the farmer needs to take against its harshness³⁶. Hesiod says,

34. See Hp. *Aër.* 10.11-2, 58-60 (summer), 73-78 (winter).

35. For a discussion of other literary texts (Herodotus, Pindar and Homer's) dealing with the influence of the climate on health, see Jouanna 1996; 25-26. In fact, Hesiod's *Works and Days* represents the most elaborate antecedent of *AWP*.

36. Hes. *OD* 504-563.

μῆνα δὲ Ληναίωννα, κάκ' ἡματα, βουδόρα πάντα,
 τοῦτον ἀλεύασθαι, καὶ πηγάδας, αἶ τ' ἐπὶ γαῖαν
 πνεύσαντος Βορέαο δυσηλεγεές τελέουουσιν

The month of Lenaeon, evil days, ox-flayers all of them—avoid it, and the frost that are deadly upon the earth when Boreas blows³⁷.

As later in the Hippocratic treatise, wind plays a crucial effect. Boreas is the harsh wind that blows from the North. It predominates in winter causing the frosts on the earth, which are called cruel (*dysēlegees*) on account of their impact on living beings' bodies. The reference to the body is not explicit in this passage but the use of the adjective *dysēlegees* points to it. Indeed, *dysēlegees* appears in the Homeric epic to characterize war and death as phenomena affecting the human being and in Hesiod it comes to qualify the icy crystals covering the land in winter, also fatally affecting all living creatures, including humans³⁸. Boreas, the North wind, does not penetrate the fleece of sheep but reaches the skin of the goat and makes the old man curved as a wheel—an image that conveys the stiffening and contracting effects of the cold wind and seems to anticipate in general terms the medical considerations discussed earlier in relation to cold winds in *AWP*. As Hesiod will soon instruct, the farmer needs to protect every part of his body, with suitable garments made of the right material and with the right technique.

Καὶ τότε ἔσασθαι ἔρυμα χροός, ὧς σε κελεύω, / γλαϊνάν τε μαλακὴν καὶ
 τερμιόεντα χιτῶνα· / στήμονι δ' ἐν παύρῳ πολὴν κρόκα μερύσασθαι· / τὴν
 περιέσασθαι, ἵνα τοι τρίχες ἀτρεμέωσιν / μηδ' ὀρθαὶ φρίσσωσιν ἀειρόμεναι
 κατὰ σῶμα· / ἀμφὶ δὲ ποσσὶ πέδιλα βοῶς ἴφι κταμένοιο / ἄρμενα δήσασθαι,
 πίλοις ἔντοσθε πυκάσσας· / πρωτογόνων δ' ἐρίφων, ὅπότε ἂν κρύος ὦριον
 ἔλθε, / δέρματα συρράπτειν νεύρῳ βοός, ὄφρ' ἐπὶ νότῳ / ὑετοῦ ἀμφιβάλῃ ἀλέην
 κεφαλῆφι δ' ὑπερθεὶν πῖλον ἔχειν ἀσκητόν, ἵν' οὐατα μὴ καταδεύῃ· / ψυχρὴ γάρ
 τ' ἡὼς πέλεται Βορέαο πεσόντος· / ἡῶς δ' ἐπὶ γαῖαν ἀπ' οὐρανοῦ ἀστερόεντος /

37. Hes. *OD* 504-6, all translations of *Works and Days* are by Most.

38. See *Od.* 22.325, *Il.* 20.154. It is noteworthy that while the Hippocratic doctors look at the effects of the seasonal phenomena on human beings, including women's reproductive health, Hesiod pursues the effects of winter on an array of living creatures, from plants to wild animals to domesticated ones, to focus eventually on the “technical resources” of the farmer who needs to cover and protect his body.

ἄηρ πυροφόροις τέταται μακάρων ἐπὶ ἔργοις,/ ὅς τε ἀρυσσάμενος ποταμῶν
 ἀπ' αἰεναόντων,/ ὑποῦ ὑπὲρ γαίης ἀρθεῖς ἀνέμοιο θυέλλη/ ἄλλοτε μὲν θ' ὕει
 ποτὶ ἔσπερον, ἄλλοτ' ἤησιν/ πυκνὰ Θρηκίου Βορέω νέφεα κλονέοντος./ τὸν
 φθάμενος ἔργον τελέσας οἶκονδε νέεσθαι,/ μὴ ποτέ σ' οὐρανόθεν σκοτόεν
 νέφος ἀμφικαλύψει./ χρωῶτα δὲ μυδαλέον θήη κατά θ' εἴματα δεύσει./ ἀλλ'
 ὑπαλεύσθαι μεις γὰρ χαλεπώτατος οὗτος/ χειμέριος, χαλεπὸς προβάτοις,
 χαλεπὸς δ' ἀνθρώποις./ τῆμος τῶμισυ βούς' ἐπὶ δ' ἀνέρι τὸ πλεόν εἴη/ ἀρμαλιῆς
 μακραι γὰρ ἐπίρροθοι εὐφρόναι εἰσίν.

And that is when you should put on a defense for your skin, as I bid you: a soft cloak and a tunic that reaches your feet. Wind plenty of woof on a puny warp: put this around you, so that your hairs do not tremble nor stand up straight shivering along your body. Bind around your feet well-fitting boots from the leather of a slaughtered ox, padded inside with felt; when the seasonable cold comes, stitch the skins of newly born together with the sinew of an ox, so that you can put it around your back as protection against the rain; wear a well-made felt cap upon your head, so that you do not get your ears wet. For the dawn is chilly when Boreas falls still, and a dawn mist is stretched out upon the earth from the starry sky onto the wheat-bearing works of the blessed ones—a mist which is drawn up from ever-flowing rivers and is raised up on high above the earth by a blast of wind; and sometimes it rains toward evening, at other times it blows, when Thracian Boreas drives thick clouds in rout. Forestall him, finish your work and get home ahead of him, lest a shadowy cloud from heaven cover you round, and make your skin wet and drench your clothes. Avoid this: for this is the most difficult month, wintry, difficult for livestock, and difficult for human beings. At this time give half the usual rations to the oxen, but more to a man: for the long nights are a help. Bear these things in mind and balance the nights and days until the end of the year, when Earth, mother of all, beings forth and various fruit once again³⁹.

After the North wind has blown in the evening, at dawn it is chilly. For it is at this time that a mist spreads from the sky toward the earth covering the land. The mist originates from the water of the rivers and has been carried upward by windstorm, and it may turn into rain or wind when Boreas gathers the cloud in the evening⁴⁰. The farmer should return home before this happens

39. Hes. *Op.* 536-560.

40. As West notes, Hesiod is aware that rain does not come from a celestial reservoir but from the mist drawn up from the earth (1978: 297).

and avoid getting wet —the implication being that exposure to cold water in a cold environment has harmful effects on the human body. And if both men and animals suffer on account of the wintry cold they should follow a differentiated diet: men need more food and should eat double rations than in other seasons of the year, while animals need to eat less. There has been a tendency in past scholarship to consider this long description of winter in Hesiod's poem as an interpolation because it does not address the activities a farmer should undertake at this time of the year⁴¹. But in a month when outside activities are prohibited by the harshness of the climate and the vegetation cycle is dormant, the attention is rather given to the farmer's practices to preserve his health. For the long description of winter and the strategies to cope with it should be understood within the framework of the poem, which deals with the human condition, characterized by pain, mortality, and *diseases*. Let us briefly recall that since Pandora, the first woman, fatally opened the jar she brought from Olympus

Νοῦσοι δ' ἀνθρώποισιν ἐ' ἡμέρη, αἱ δ' ἐπὶ νυκτί/ αὐτόματοι φοιτῶσι κακὰ
θνητοῖσι φέρουσαι/ σιγῇ [...].

Some sicknesses come upon men by day, and others by night, of their own accord (*automatoi*) bearing evils to mortals in silence⁴².

Hesiod's farmer may well prevent the diseases caused by the harshness of winter by taking good care of his body and diet, but in his world diseases come silently and inexplicably —in this case, according to the will of Zeus. One perceives the diseases only once they break out. By contrast, as we have seen in this essay, the Hippocratic doctor of *Airs, Waters and Places* overcomes their unexpectedness and is empowered to predict the outbreak of precise medical conditions at specific times of the year based on the observation of the stars and the anomalous pattern of bi-seasonal periods.

41. For Nelson, however, Hesiod focuses on the appropriateness of actions at specific seasons not just practical advice and aims to portray the psychological response of the farmer to the life in the farm, i.e., «how the farmer feels» (1996: 50).

42. Hes. *Op.* 102-4.

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