

## PHYSIOLOGY IN THE HOMERIC POEMS

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What medicine was like in the Homeric period remains an intriguing puzzle. The two epics, especially the *Iliad*, contain a great many references to the parts of the human body—almost every vulnerable part of the body is wounded at least once, and all the major organs are pierced and the results described. The resulting anatomical catalogue was put together by the historian of medicine Charles Daremberg, in 1865, and he concluded, as others have since, that the knowledge of anatomy evidenced in the poems is almost as sophisticated as that in the Hippocratic writings, and indeed anywhere before the serious study of anatomy in the Hellenistic period.<sup>1</sup> But in other aspects of medicine the situation seems very different.

Doctoring in the poems is a matter of treating wounds, laying on soothing drugs, binding them up, and, at one point, adding a chant to help the healing.<sup>2</sup> Doctoring is spoken of as a respected profession, and doctors are one of the few traveling *dēmiourgoi* who would be welcomed to a community.<sup>3</sup> But as the ancients, beginning with Plato, observed, there is no evidence in the poems of the treatment of internal disease or of regimen.<sup>4</sup> The ancients presumed that that aspect of medicine must have been a later development, and left the subject there. Modern discussions have gone on to conjecture that in the early period internal medicine and the treatment of disease must have been simply practical or else wholly theurgic—if only the

<sup>1</sup> Ch. Daremberg, *La médecine dans Homère* (Paris 1865). See also O. Braunmueller, *Krankheit und Tod bei Homer* (Diss. Berlin 1879); K. Mitropoulos, "Ὁμήρου Ἰατρικά," *Platon* 14 (1962) 145–176.

<sup>2</sup> *Il.* 4.189–219, 5.401–2, 889–90, 11.828–47, *Od.* 19.457.

<sup>3</sup> *Od.* 17.382–85; cf. *Il.* 11.514.

<sup>4</sup> Plato, *Ion* 538c, *Repub.* 406A, 408A; Eustath. *ad Il.* 11.829; Galen V, p. 869 K.; Celsus, *De med.*, proem.

gods caused disease, then only they could cure it, and hence treatment of disease was a matter of charms, prayer, and exorcism.<sup>5</sup> Beyond this vague surmise, it has appeared that little definite can be said.

Wholly practical medicine, if that means doctoring without any notions of what disease and health are, is difficult to imagine. And even theurgic medicine must involve some idea of what the gods and magic cause and cure. If exorcism is in vogue, for example, something comparable to the Babylonian charm, "Come out, you breaker of bones," might be expected. Or if by charms and prayer divinities are induced to affect the sufferer, there is likely some notion of what they do.

Therefore, although the question as to what medicine was like in the Homeric period cannot be solved directly, some enlightenment may be derived from an indirect approach. The *Iliad* and *Odyssey* in their exploration of the implications of mortality evoke notions of what men are like and how they work. Epic language and formulae are conservative, they tend to be archaizing rather than up to date, and they are dignified. There is no place in the epic any more than in tragedy for the simple disease or the mundane bodily function. But there is still much occasion for appeal to the poet's and audience's sense of normal and abnormal, and for suggestions about the relation between men and the natural world and the gods, all of which bear some comparison with what appears in later Greek medicine.

Later Greek medicine is the product of beliefs about how the body works—one might characterize its practice and theory as the outgrowth of a physiology of fantasy, a series of myths about what goes on beneath the skin. But Greek doctors treated that fantasy world to the most rigorous rational approach. Disease in Greece was not a thing that invades the body and is fought and driven out, as it has been in some cultures. *Nosos* was a disturbance, too much or too little of something, a displacement in which one or another bodily fluid might be at the extremities when it should be at the center, or might be blocked in its movements; or *nosos* was the result of something too strong or poisonous that had to be digested and tempered or passed off.

<sup>5</sup> Cf. W. Jaeger, *Paideia* 3 (Eng. trans., London 1945) 5; W. R. Halliday, "Some Notes on the Treatment of Disease in Antiquity," *Greek Poetry and Life* (Oxford 1936) 277-94; Arturo Castiglioni, *A History of Medicine* (Eng. trans., N. Y. 1941) 113-20.

Whatever the peculiarities of the various schools and the individual medical treatises, the Greek doctor argues from the same basic assumptions of what is normal and abnormal, normalcy always being associated with calm and order in the body.<sup>6</sup>

In investigating the Homeric poems for their view of man, and as a background for later developments, one will not find touchstones of medical doctrine such as the doxographers looked for, nor terminology which carries over.<sup>7</sup> But what presents itself for investigation are tendencies shown in the kinds of thing the epic poet observes and calls attention to, the sorts of metaphors he uses, and the associations he suggests on the assumption that they will be meaningful to the audience. In such material I propose to look for indications of an earlier stage of beliefs that are significant and productive of theories in later periods—assumptions about the direct interaction between person and environment in health and disease and in his life-cycle, suggestions of the equivalence of health and sanity with balance and order among bodily components, and other indications of the peculiar Greek outlook which later medicine elaborated. What is here sought, in effect, is the raw material of assumptions common to the culture which were later turned into abstract systems. Without providing the missing details about the practice of medicine, these may provide indications as to what practical and theurgic medicine addressed themselves to, and can indicate limits and give guidance for conjecture.

At this early stage one can, I think, see more clearly the relation between theurgic medicine and rational and practical medicine in Greece. Theurgic medicine does not have a special set of notions about what disease is, such as invading spirits and the like to which theurgic medicine elsewhere was directed. As in the epic the divinities work on and through the natural elements to do what they do, so theurgic medicine addresses itself to the same phenomena of disease, similarly understood, as rational medicine, but enlists extraordinary powers.<sup>8</sup> And one can see at this early stage the process of observation

<sup>6</sup> See the excellent introduction by W. H. S. Jones, vol. I of the Loeb *Hippocrates*, ix-lxii; and cf. A. W. Heidel, *Hippocratic Medicine* (N. Y. 1941) 57-136, and O. Temkin, "Der systematische Zusammenhang im Corpus Hippocraticum," *Kykelos* 1 (1928) 9-43.

<sup>7</sup> Cf. Daremberg (above, note 1) 55-57, 89.

<sup>8</sup> In a paper in *TAPA* 96.403-26, I have shown that this view of divine intervention in disease remains constant in Greece until the Christian period.

which the treatise *On Ancient Medicine* describes as the true "ancient art," which depends not on hypothesis, consciously at least, but seems to be the direct perception of the effects of things on men.<sup>9</sup> The perceptions seem direct, but what men see is influenced by what they expect. And the perceptions are directed and organized already by notions which were later formulated in the concepts *harmonia*, *krasis*, *isonomia*, and the like.

Much thought about how men work involves direct transfer from observation of growing things generally. For the poetic texture, such observation provides the affecting comparisons between men and leaves, stalks of grain, and other plants, and between men and various sorts of animals. But beyond the similes, or behind them, is a process of association much broader, which leads to the anticipation that man's health, growth, and withering is like that of the living things one sees, whose processes one seems to understand. From the observation to rationalization and correction of assumptions is a complex process which could presumably follow many patterns. Tendencies in the culture out of which the epic came to think in terms of direct interaction with the natural environment are nicely illustrated by a series of ideal "constitutions" in the *Odyssey*, comparable in their occurrence to a type-scene.

Eumaeus describes Syriê, the island of his childhood: It is a good place, where hunger never comes on the people, nor any other disease which is destructive to mortals. When men there grow old Apollo and Artemis have to come and kill them with their arrows. In Phaeacia the climate is ideal because the gentle zephyr blows the year round. The fruit is continually ripening crop on crop. And the character of the Phaeacians reflects their land: their *aretê* is not expressed in combat, but in races, in swift ships, in music, dance, and warm baths. Odysseus, in contrast, describes Ithaca as a hard land, but a good nurse of youth.<sup>10</sup>

The most perfect environment is the Elysian plain, where Menelaus will go instead of dying, and it is much like Syriê and Phaeacia: there is no snow there, no harsh storms or rain, but always Zephyros' breeze blowing clear-sounding from the ocean to refresh men. The word

<sup>9</sup> *Ancient Medicine* 3.

<sup>10</sup> Syriê, *Od.* 15.403-11; Phaeacia, *Od.* 7.112-21, 8.245-49; Ithaca, *Od.* 9.27.

*anapsychein*, refresh, expresses the kind of immortality the place offers.<sup>11</sup>

In various divine interventions in the *Iliad* and *Odyssey* the gods' actions are described in terms of specific concentrated doses of what the environment offers, as notably in the cases where the brisk north wind blowing revives the fainting hero.<sup>12</sup> When Athene disguises Odysseus she does so by parching and wrinkling him; the verb used, *karphein*, is associated with the action of weather on crops and men:<sup>13</sup> Athene simply ages Odysseus' exterior, literally, and later fills him out and brings him back to his prime.<sup>14</sup> The numerous descriptions of the gods breathing might into men and armies,<sup>15</sup> and also the description of some *daimôn* breathing an idea into Penelope, a sort of expression very frequent in later literature also, appeal to the same notions.<sup>16</sup>

Although the direct connection between the processes of life and the natural environment may in the epic look like a poetic fancy only, later developments suggest that it is more. To give some examples: when in Aeschylus' *Eumenides* the furies threaten vengeance on Athens, they threaten to send angry breaths and poisonous rains that breed disease; when they are placated they promise kindly effluences from earth, sea, and sky to make crops, men, and beasts bloom, and to stop disease.<sup>17</sup> When Empedocles describes the virtues of his teachings, he promises an Elysium on earth: You will learn all the *pharmaka* there are to cure illness and old age—you will stop the power of the untiring winds, you will make for men a timely dryness after the dark rain, and so on.<sup>18</sup>

More soberly, Herodotus observes the relations between environment and health and character in his survey, to lead up to the

<sup>11</sup> *Od.* 4.561-68.

<sup>12</sup> *Il.* 5.697, cf. 11.350, 22.475, *Od.* 5.458, 24.349.

<sup>13</sup> *Od.* 13.398-99, 429-30; cf. *Od.* 5.368-69, *Hes. Op.* 575.

<sup>14</sup> *Od.* 16.174.

<sup>15</sup> *Il.* 10.482, 15.60, 262, 17.456, 20.210, *Od.* 9.381, 24.520.

<sup>16</sup> *Od.* 19.138. Cf. *Aesch. Ag.* 105; *Soph. Antig.* 929-30; *Eur. Ba.* 1094; *Hes. Theog.* 31; *Pi. Ol.* 8.70-71; *Simon. Anth. Pal.* 7.25.3-4; *Theoc.* 18.54-55.

<sup>17</sup> *Aesch. Eumen.* 780-87, 810-17, 908, 937-47.

<sup>18</sup> Empedocles, *VS* 31B111. "Bring out of Hades the might of a dead man" (line 9), in the context may describe resurrection, or it may suggest the idea we find in *Regimen* 4.92: One should pray to the dead because "from the dead come nourishment, growth, and seed."

apophthegm "soft lands breed soft men."<sup>19</sup> And, of course, one of the outstanding early medical treatises is *Airs, Waters, Places*, which relates the effects on fertility, health, age, and intelligence from orientations of the wind and qualities of soil and water, and goes on to relate character and political institutions to climates. The "constitutions" in the *Epidemiae* show the physician in the field making his observations on the same assumptions.<sup>20</sup> In general the persistence with which medical men took it as self-evident that one should look to the climate to explain epidemic disease, and hardly entertained other hypotheses, shows the depth and uniformity of the belief within the culture.

Throughout both epics, and with fairly obvious thematic uses, there are insistent reminders of the substance of "mortal man who eats what the soil yields."<sup>21</sup> Men are effectively only what they consume. At times this theme is made particularly poignant, as in the meal shared by Calypso and Odysseus, at which he is served "the kinds of things mortals eat" while she is given nectar and ambrosia. Over that meal they discuss her offer of immortality, and the perishability of Penelope.<sup>22</sup> In *Iliad* 19 Achilles at the height of his transcendent wrath has to listen to tedious lectures about the necessity of breakfast, and finally to be sustained by ambrosia, just as the important corpses are kept from rotting untimely by ambrosia.<sup>23</sup> When Aphrodite's hand is wounded, the poet stops to observe what comes out: Blood immortal, ichor which flows in the blessed gods, for they do not eat food nor drink dark-faced wine. There they have no blood and are called immortal.<sup>24</sup> The notion is elaborated in notices of the particular effects of specific foods: barley is the marrow of oarsmen; Hector and his mother discuss whether wine will increase his *menos* or drain it from his limbs, Patroclus suggests that Achilles was suckled on gall, and in a simile a snake is described as making himself properly furious by eating *kaka pharmaka*, bad weeds.<sup>25</sup> The same notion is invoked in Helen's happiness drug,

<sup>19</sup> Hdt. 9.122; cf. 2.77.

<sup>20</sup> See *Epidemiae* I, 1-3, 4-12, etc.

<sup>21</sup> *Il.* 6.142.

<sup>22</sup> *Od.* 5.192-224.

<sup>23</sup> *Il.* 19.155-83, 216-37. For ambrosia: *Il.* 19.347, 353, 19.38-39, 16.680; cf. *Il.* 14.170-72, 23.186-87.

<sup>24</sup> *Il.* 5.339-42.

<sup>25</sup> *Od.* 2.288-90; *Il.* 6.260-68, 16.203, 22.94.

and in the drugs of Circe which make bristles and other pigs' parts grow on Odysseus' men.<sup>26</sup> The miraculous is only an extreme case of the normal.

The observations involved here seem fairly obvious, but they are the same ones that the author of the treatise *On Ancient Medicine* appeals to as the method of the art of medicine and the hope of its future progress: that is, the observation of the effects of each food and drink on the constitution of the patient, applying the principle drawn from the observation that the crude and harsh food of animals is unfit for men—it makes them sick unless it is appropriate and unless its harshness is removed in preparation.<sup>27</sup> It is a long step from the epic to the medical writer, but the line is direct.

When the Homeric poems look for a way to describe the organization and functioning of the body, they do so in terms of tension and balance. The way a man comes apart at death is described to Odysseus by his mother's shade when he complains that he cannot embrace her: "This is *dikê* for mortals when they die—for the sinews no longer hold bones and flesh together, but the fire consumes them when once the *thymos* has left the bones and the *psychê* flies off like a dream."<sup>28</sup> There is no term in the epic language for organism, for which the medical writers pressed the word *physis* into service, but the epic appeals to the antithesis between what is integrated and what is dissolved for its image of what man is and what he is not. The formulae describing the loosing of the limbs are used not only for death, but also for disorganization short of death—for the loss of control in fear, the collapse from weariness or grief, and for the distracting effect of desire.<sup>29</sup> In the medical writers the conviction that *nosos* is *taraxis*—disorganization—leads to suppositions that disease and fever are brought on by emotional upsets, physical blows, and frights (*phoboi*)—the sense is of a sudden collapse of organization followed by gradual recuperation.<sup>30</sup>

<sup>26</sup> *Od.* 4.221, 10.235-43, 392-94; note ἑφύσε in 393.

<sup>27</sup> *Ancient Medicine* 3, 8.

<sup>28</sup> *Od.* 11.218-22.

<sup>29</sup> Fear: *Od.* 5.297, 406, 18.341, 22.68, 147. Weariness: *Il.* 7.6, 13.85, *Od.* 20.118. Grief: *Il.* 18.31, *Od.* 4.703. Desire: *Od.* 18.212.

<sup>30</sup> See for example case histories 11 and 15 in *Epidemiae* III, where the disease is brought on by mental trauma, cf. *Regimen* 4.78. See also the description in *Sacred Disease* 13 of collapse and convulsion caused by a sudden fright or loud shout.

The notion is strikingly similar to what the epics appeal to in the shuddering collapse caused by shouts, fearful sights, and grief, as well as by physical blows.<sup>31</sup> When the gods intervene to change men and to cause illness in the epic they normally do so by causing shocks, by visual, aural, or tactual impact.<sup>32</sup> Again, in retrospect the observations seem inevitable, but I suggest that it is significant that this is the direction the observations took.

The noun *atê* and the verb *aaô* are associated in the poems with two kinds of disorganization—the imbalance from one faculty overwhelming another, and the total collapse of the faculties. The first is described when Patroclus heads for Troy instead of going back as Achilles had advised; *meg' aasthê* is the description; he was full of *atê* because Zeus who is stronger than the *noos* of any man was rousing Patroclus' *thymos*.<sup>33</sup> The second, total collapse of faculties is described shortly after, when Apollo hits Patroclus on the back: "*Atê* seized his *phrenes*, his limbs were loosed, he stood amazed."<sup>34</sup> When the gods of the epic put or cast *atê* into a man's *phrenes* or *thymos*, or when wine brings *atê*, these are the notions appealed to.<sup>35</sup>

In the final recognition scene between Odysseus and Penelope in *Odyssey* 23, the formula for loosing of the limbs is used in a unique way, to describe her relaxation of restraint and suspicion when Odysseus' identity is proved (23.205–7):

So he spoke, and her limbs were loosed, and her *êtor*,  
when she recognized the sure signs that Odysseus had revealed to her.  
She burst into tears and ran to him. . . .

At this climactic moment the poet invokes the series of associated ideas we have pointed out above to describe moral and emotional integrity and their opposite, and in doing so he sums up one of the thematic currents in the *Odyssey* which has physiological implications.

One of "prudent" Penelope's characteristic epithets is *ἐχέφρων*, a word restricted to the *Odyssey* save for one occurrence in *Iliad* 9 (341).<sup>36</sup>

<sup>31</sup> *Il.* 13.394, 16.403, 18.225, *Od.* 20.17.

<sup>32</sup> *Il.* 4.166–67, 15.229, 308, 724, 17.591–96, *Od.* 14.178, 20.346–49; cf. *Od.* 21.294, *Il.* 7.360.

<sup>33</sup> *Il.* 16.685–91.

<sup>34</sup> *Il.* 16.805–6.

<sup>35</sup> *Il.* 19.88, *Od.* 15.234, 23.223. The verb *συγχείω* is used with similar associations.

<sup>36</sup> See *Od.* 4.111, 13.406, 16.130, etc. Penelope's epithet *ἐχέφρων* alternates with



Its opposite is *χαλίφρων*, which, along with *χαλιφροσύνη* and *χαλιφρονέω*, is also restricted to the *Odyssey*.<sup>37</sup> Penelope's speech to Odysseus in effect explains her epithet and relates it to the notion of *até*, the dominance of one faculty or tendency. When, finally, Penelope's limbs are loosed, she apologizes to Odysseus for her unfeminine hardness (note 172), but reminds him of the years she has stayed so: always her *thymos* shivered for fear someone would come to deceive her (215-17). And she has pondered the example of Helen, who would never have done what she did if she had known the consequences (23.222-24):

But some god roused her to do the shameful deed.  
Before that she would not admit to her *thymos*  
the baneful *até* from which first all our grief came.

Tension and balance define the living being, describe also his health and sanity, and describe his intellectual and moral competence. Vocabulary and process of association carries over from one to the other.

Besides expressions of balance and control, which are generally mechanical in association, emotional forces which affect the organs of control tend to be imaged as fluids—for example *menos* which swells and fills the chest and drains hither and yon in the body, and *erôs* and *himeros* which enwrap and take control of the *phrenes* as does wine.<sup>38</sup> These are obviously metaphorical expressions, though probably no more so than the expressions of mechanical control: when *menos* is cast into the *thymos* or knees of a hero or breathed into him we are dealing with metaphors for which the poet probably could not provide a more literal explanation, and the metaphor itself is a kind of thinking toward a description. A consideration of *cholos*, the emotional fluid that is most fully described, will suggest what is at issue.

*Cholos* is not precisely bile, and it is not, in the epic, associated with the liver, which in the medical writers filters the bile out of the blood and stores it.<sup>39</sup> It is the emotion anger, or the cause of anger, *kotos*, and *mênis*. As such it is prominent in the *Iliad* and also in the *Odyssey*,

*περίφρων* depending on the metrical context. The usual term in *Iliad* and *Odyssey* for firmness and control is *ἔμπεδος*.

<sup>37</sup> See *Od.* 4.371, 16.310, 19.530, 23.13.

<sup>38</sup> See *Il.* 1.103-4, 3.332, 442, 9.679, etc.; *Od.* 3.139, 4.661-62, 9.362, etc.

<sup>39</sup> Archilochus is the earliest writer to associate gall with the liver: fr. 96 (Diehl).

as probably in many poems before them. The precise images with which it is presented allow us to characterize it: It comes into the body as part of the food; it is in the *phrenes* or *kradia*.<sup>40</sup> When it is stimulated it rises up, *aexei*, like smoke, as Achilles says, and it overwhelms the senses until it tastes sweeter than honey.<sup>41</sup> It makes a man angry, however wise he is—it controls his *phrenes*.<sup>42</sup> But at first *cholos* can be controlled—*παῦσαι*, *ἔχειν*, and *σβεννύναι* are used—or it can be digested,<sup>43</sup> but once in control it runs its course.<sup>44</sup>

One may compare this with a later medical description of fits of madness which come from bile rushing in quantity to the head and overheating it—which effect persists until the bile is dissipated.<sup>45</sup> The epic *mēnis* and the medical *mania* retain much in common.

In the epic, the images through which dramatic precision is sought are not exactly metaphors, but they are not literal description. In the medical treatise *On the Sacred Disease* the description of bile's effect is literal. The medical writer's information itself is wrong, but it is part of a very useful myth about the body which he received from antiquity, handled rationally, and passed on.

To summarize: at the earliest time of which we have evidence, the characteristic Greek view of what a man is and how he works is present, inchoate but consistent. From the partial view afforded by the epic, it appears that the epic poets in seeking concrete images to express their vision are initiating processes of thought which are to be faithfully carried forward in science, philosophy, and superstition in later periods. For notions of disease and the processes of life to which medicine, theurgic and practical, then addressed itself, the epics offer the guide and corrective for conjecture.

<sup>40</sup> *Il.* 16.203, 22.94; cf. *Od.* 4.321, *Il.* 2.241, 24.584.

<sup>41</sup> *Il.* 18.108–10; cf. *Il.* 9.646, 675.

<sup>42</sup> *Il.* 9. 436, 675, 14.207, 306.

<sup>43</sup> *Il.* 1.80–83, 192, 9.459, 678, 15.72, 19.67, 24.584, etc.

<sup>44</sup> *Il.* 9.675, 15.217, 1.80–83.

<sup>45</sup> *Sacred Disease*, ch. 18.