

# Moses Maimonides: Commentary on Hippocrates' *Aphorisms*

Fustât, Egypt, 1190s CE

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## Commentary

“An apple a day keeps the doctor away”; “Eat to live, don’t live to eat”; “An ounce of prevention is worth a pound of cure.” We are all familiar with maxims like these, which are easy to remember, easy to repeat, and easy to tell others. Your family doctor may tell you them to remind you to eat or sleep better. She may also have her own set of maxims or mnemonics for treatment or diagnosis. Actually, the practice of memorizing maxims and pithy statements with a view to clinical practice goes back thousands of years. Some of the earliest statements we know of are collected in an Ancient Greek volume of “Aphorisms” attributed to a fourth-century BCE doctor, Hippocrates, although many of the aphorisms were probably written hundreds of years later. They enjoyed a considerable afterlife, as they were disseminated widely and translated into Syriac, Arabic, Hebrew, Latin, and every modern European language. Indeed, some of these aphorisms, along with the famous Hippocratic oath, continue to be used today.

Today, the Hippocratic statements are often used for their ethical material, but most of their content is actually specifically medical. Take the following, for example: “acute diseases come to a crisis in fourteen days” (2.23); “pains and fevers occur when pus is forming rather than when it has been formed” (2.47); “blood or pus in the urine indicates ulceration of the kidneys or bladder” (4.75).<sup>1</sup> Aphorisms of this kind are meant for use; we can imagine doctors turning to a collection of such statements for quick answers in the days before Google and PubMed. It is much more difficult to imagine that pithy answers in a desk reference like that could remain relevant for two thousand years. Indeed, as early as the second–third centuries CE, Galen noted that acute diseases do not follow the same trajectory and that physicians should not use the fourteen-day

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<sup>1</sup> Hippocrates, *Aphorisms*, in *Nature of Man. Regimen in Health. Humours. Aphorisms. Regimen 1–3. Dreams*, trans. W. H. S. Jones, pp. 97–221, Loeb Classical Library 150 (Cambridge, MA: Harvard University Press, 1931).

benchmark to assess the severity of the disease.<sup>2</sup> Some of Hippocrates' statements are downright preposterous and were recognized as such very early on—for example, “when blood congeals in the breasts of a woman, it indicates madness” (5.40).<sup>3</sup> Still, the aphorisms enjoyed a popularity among medical professionals in the Middle Ages that is difficult to account for except by their user-friendly form.

It was likely the continued popularity of the aphorisms combined with their unreliability in many respects that encouraged a great number of people to write commentaries on them, pointing out what was still correct and what, like the two misleading examples I just mentioned, was in need of correction. As far as I know, every language in which the aphorisms appeared also saw the rise of a commentary tradition. Commentaries were themselves translated from language to language and built a network of references to each other, such that a doctor using the aphorisms was relying not so much on the Hippocratic authors as on a body of medical texts organized around specific, easily remembered maxims that, at least in the Middle Ages, would have been recognized by everyone in Europe, North Africa, and the Middle East. In fact, the ubiquity of these aphorisms among doctors likely inspired collaboration across cultural divides as doctors sought to assess and reassess the validity of the claims in the aphorisms.

One such thinker, who was himself responsible for a great deal of intercultural medical commenting activity, was Moses Maimonides. Born in Cordoba around 1138, educated first in Fez and then in Old Cairo (Fustāt), Maimonides was revered as the foremost decisor of Jewish law, the greatest philosopher, and the most important Jewish physician of the twelfth century, even of the entire Middle Ages, if not of all time. In the last decade or so of his life, Maimonides served among the court physicians of the Ayyubid empire in Egypt and wrote at least eleven medical works in Arabic, including his *Commentary on Hippocrates' Aphorisms*. Though the medical writings are clearly different from Maimonides' philosophical and legal writings, they all show evidence of his outstanding ability to summarize and restate complicated arguments and ideas as clear, simple, and easily referenced works. This ability generated great interest in Maimonides' medical writings and led to their becoming central parts of medieval and Renaissance Jewish medical education following multiple translations into Hebrew (and in a few cases even into Latin).

An example of Maimonides' method is his own *Medical Aphorisms*. Although the content is primarily taken from Galen, Maimonides reorganizes the material in his own methodical way, which he thinks will be easiest to read and use for practice. In contrast, his *Commentary on Hippocrates' Aphorisms* follows the order and content determined by the Hippocratic authors. That Maimonides preserves this order and content, even in the frequent cases when he strongly disagrees with it, is a testament to the popularity of the Hippocratic work and Maimonides' recognition that it was going to remain in vogue

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<sup>2</sup> Galen, *In Hippocratis Aphorismos commentarius* 2.23, in *Claudii Galeni Opera Omnia*, ed. Karl Gottlieb Kühn, vol. 17, part 2 (Cambridge: Cambridge University Press, 2011), pp. 506–7.

<sup>3</sup> Hippocrates, *Aphorisms*, Loeb translation modified.

regardless of his own ability to structure and summarize arguments. It is in acknowledgement of the continued popularity of this work that Maimonides wrote his only medical commentary, and his first commentary at all in over sixty years.

Since he follows the order of the Hippocratic statements, Maimonides starts with the first Hippocratic aphorism, beginning: “Life is short, art is long, time is limited, and experience is dangerous.” These words, and actually the entire first aphorism, were probably originally intended as a kind of introduction to the *Aphorisms*. They were likely directed at the doctor, saying: There is a lot to learn and you don’t have much time. Experience, or as the Greek *πειρα* is probably better translated, “trying things out,” is dangerous. So, instead, read this book and gain concise statements of useful medical knowledge that you can then apply. That is, the opening aphorism is a teaser for the rest of the book and an example of how much can be conveyed in few words.

Maimonides, however, takes the statement “experience is dangerous” not as an advertisement for following the rest of the Hippocratic statements, but as a critique of medical knowledge itself. The critique is based on a view of the human body that is drawn from Aristotelian science and mediated through Galen. Aristotle and the Aristotelians saw natural beings as combinations of matter and form. The Arabic-speaking Aristotelians also characterized natural beings as combinations of substance, or “self” (ذات), and accidents (اعراض).

Medicine treats the accidents of the human body, rather than the self. The accidents are either accidents of form or accidents of matter. Medicine operates using drugs and nutrients that have their own accidents. The accidents of the medicines are themselves either accidents of the form of the medicine or accidents of the matter of the medicine. These accidents perform different actions when introduced to the body. Some drugs heat up or cool down the body through their form, while others loosen or thicken parts of the body by their matter. The body itself also acts upon the things introduced to it. Thus, as Maimonides notes, we digest foods, but do not act at all upon pits and peels of various fruits, which leave the body more or less intact after having gone through our entire digestive system. Sometimes when we eat things we digest them, and sometimes we do not. What happens is dependent both on the accidents of form and matter of the thing eaten and on the accidents of form and matter of body that eats it.

The art of medicine is in large part knowing what to give the body and when. Some medical conditions clearly call for laxatives, purgatives, or other effects that can be induced by drugs. Such drugs generally have these effects, Maimonides says, through their form. At the same time, the matters of these drugs also have accidents that produce effects on the body, such as thickening or loosening. In other words, Maimonides recognizes side effects. Drugs that help the heart with their accidents of form may harm the liver with their accidents of matter. This, says Maimonides, is why experience, or experiment, is dangerous. It is also why the reader of the *Aphorisms* must be warned: do not try this at home, or at least make sure you know everything that will or can happen when you prescribe a treatment.

On the other hand, says Maimonides, “we have no indication whatsoever, nor any other way by which to draw conclusions about this action except by experience [تجربة].”<sup>4</sup> That is, all of our knowledge about the effects and side effects of drugs comes from experience. In Maimonides’ view, human knowledge of the interaction of the accidents of form and matter of the drug with the accidents of form and matter of the body is insufficient for predicting any outcome with any kind of certainty. The only way to find out what will happen is to take the medicine and then see the results. Afterwards, the Maimonidean doctor can use Galenic and Aristotelian principles to explain what happened. It is thus clear why experiment/experience is dangerous; unless we have seen it before, there is no way to predict what will happen using the theories available.

We might then wonder how we come to be able to use any medicines at all. Maimonides in fact relies on a vast history of doctors who did try things that were dangerous and then wrote about what they did in books. Records of this kind allow us to explain what happened using Aristotelian and Galenic accounts of accidents. More importantly, they allow us to repeat or avoid what those previous doctors did without risk, or at least with greatly reduced risk to the patient. In other words, Maimonides develops a kind of empirical theory that involves using recorded data. In cases where one does experiment or rely on one’s own experience, Maimonides urges extreme caution.

In some sense, then, Maimonides adopts the Hippocratic approach. Experience/experiment is dangerous and is best avoided. Better to make use of the experiences of others, especially when these have been written down in books. That is, the Hippocratic *Aphorisms* would appear to be the answer: clear simple results of other people’s experiments that you can adopt yourself.

Yet for Maimonides, experience is even more dangerous than for the Hippocratics, since as it turns out, much of what is in the aphorisms is not correct. That is, it is not borne out by experience, nor can it be explained by Aristotelian or Galenic theory.

Let us return to the examples I mentioned at the beginning of my comments. Sometimes one can agree with the Hippocratics, as in the aphorism “blood or pus in the urine indicates ulceration of the kidneys or bladder” (4.75). Other times, one can supplement the Hippocratic aphorism with an explanation based on Aristotelian or Galenic theory. Thus, Maimonides agrees with the Hippocratic aphorism that “pains and fevers occur when pus is forming rather than when it has been formed” (2.47), but he adds the explanation that this has to do with swelling and heat caused by forming pus.

On the other hand, the Hippocratic aphorisms are sometimes misleading. We already noted that Galen did not agree with the Hippocratics that acute diseases come to a crisis in fourteen days, and Maimonides joins him in saying that different diseases follow

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<sup>4</sup> Maimonides, *Commentary on Hippocrates’ Aphorisms*, Vol. 1: *A New Parallel Arabic-English Edition and Translation, with Critical Editions of the Medieval Hebrew Translations*, ed. and trans. Gerrit Bos (Leiden: Brill, 2020), p. 52, paragraph 26.

different trajectories. An even clearer example is the Hippocratic statement “when blood congeals in the breasts of a women, it indicates madness” (5.40). Maimonides responds:

It seems to me as the most probable that he observed [رأى] this once or twice and made a definite statement about it as he usually does in his book *Epidemics*. Galen remarks that he has never seen this, and this is true, that is to say that this (i.e., blood congealed in the breasts) is never a cause of madness. It [must] have happened accidentally once or twice and Hippocrates observed it and thought that it was the cause [of madness].<sup>5</sup>

This statement reveals the problem of experience. According to Maimonides, Hippocrates observed certain symptoms that were present in mad women and assumed that those symptoms were the cause of the madness. Galen notes that he has never observed those symptoms in mad women. Maimonides does not deny the experiences of either of his predecessors, but notes that the congealed blood in the breasts did not cause the madness. Some mad people also suffered this condition, but it was coincidental.

These examples give us a clear sense of the dangers of experience, inferences from experience, and experiment. They also highlight that one cannot simply rely on received information, even if it comes from highly regarded sources. Moreover, Maimonides says as much while at the same time acknowledging that experiences that have been written down are our best source of information about how to apply treatments and drugs. The doctor must navigate all of these factors. He must turn to the experiences of Hippocrates, Galen, and Maimonides when making his decisions. He must reconcile these with his scientific theories. And, above all, the doctor must use his own judgment to decide what to do in each case.

While appearing to explain the Hippocratic *Aphorisms*, Maimonides' *Commentary* in fact goes against their apparent intention. Whereas the *Aphorisms* sought to give the doctor an easy-to-use handbook for applying treatment practices, Maimonides' *Commentary* on that handbook sought to encourage doctors to challenge the conclusions of Hippocrates using Galen's criticisms, but then to challenge Galen as well. In fact, Maimonides seeks to convey the principles of medical decision-making in such a way that the doctor could conceivably challenge even Maimonides' own experiences. Experience, after all, is dangerous. The art of medicine is not only long, but also hard, and doctors cannot always find shortcuts on their paths to healing.

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<sup>5</sup> Ibid., p. 218.

## Further Reading

Efros, Israel. *Maimonides' Treatise on Logic: The Original Arabic and Three Hebrew Translations*. Edited with an English translation by Israel Efros. New York: American Academy for Jewish Research, 1938.

Moses Maimonides. *Medical Aphorisms*. Edited and translated by Gerrit Bos. Provo, UT: Brigham Young University Press, 2018.

Moses Maimonides. "Maimonides' Interpretation of the First Aphorism of Hippocrates." Edited by Ariel Bar-Sela and Hebbel E. Hoff. *Bulletin of the History of Medicine* 38 (1963): 347–54.

Puig Montada, Josep. "Moshe Ben Tibbon, un traductor literal." *Sefardica* 14 (2002): 101–15.

Shatzmiller, Joseph. *Jews, Medicine, and Medieval Society*. Berkeley: University of California Press, 1994.

## Source Texts and Translations

Hippocratic Aphorisms, 1.1:<sup>6</sup>

Ὁ βίος βραχύς, ἡ δὲ τέχνη μακρὴ, ὁ δὲ καιρὸς ὀξύς, ἡ δὲ πείρα σφαλερὴ, ἡ δὲ κρίσις χαλεπή.

In the ninth century, Ḥunayn ibn Ishāq translated this line as follows:<sup>7</sup>

قال أبقرط: العمر قصير والصناعة طويلة والوقت ضيق والتجربة خطر والقضاء عسر.

Gerrit Bos translates it:<sup>8</sup>

Says Hippocrates: Life is short, and the art is long, and time is limited, and experience is dangerous, and judgment is difficult.

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<sup>6</sup> Hippocrates, *Aphorismi d'Hippocrate*, ed. Émile Littré (Amsterdam: Hakkert, [1844] 1962).

<sup>7</sup> Maimonides, *Commentary on Hippocrates' Aphorisms*, Vol. 1: *A New Parallel Arabic-English Edition and Translation, with Critical Editions of the Medieval Hebrew Translations*, ed. Gerrit Bos (Leiden: Brill, 2020), vol. 1, p. 41, para. 14.

<sup>8</sup> Ibid., p. 40, para. 14.

In the twelfth century, Judah ibn Tibbon quotes part of the same line in Hebrew in a letter to his son:<sup>9</sup>

אמר אבוקרט כי העת צר והנסיון סכנה.

In the second half of the thirteenth century, Moses ibn Tibbon (Judah's grandson) quotes the line in his translation of Maimonides' *Commentary on Hippocrates' Aphorisms*:<sup>10</sup>

אמר אבוקרט: החיים קצרים והמלאכה ארוכה והעת צר והנסיון סכנה והמשפט קשה.

Zerahyah ben Isaac ben She'altiel Hen's thirteenth-century Hebrew translation of Maimonides' *Commentary on Hippocrates' Aphorisms* runs:<sup>11</sup>

אמר אבוקרט: הזמן קצר והמלאכה ארוכה והעת צר והנסיון פחד והדין קשה.

Maimonides comments on this line as follows:<sup>12</sup>

[٢٠] ופوله الوقت ضيق يبدو لي أنه أراد به وقت المرض يضيق جدًا عن التجربة. فإنك إذا لم تعلم الأمور كلها التي قد صحت بالتجربة بل تستأنف الآن أن تجرب أموراً في هذا المريض فالوقت يضيق عن ذلك مع ما في استئناف التجربة في هذا المر يضمن الخطر و يكون الكلام كله في الحض على الكمال في الصناعة حتى يكون كل ما جرب على مرور السنين حاضراً في ذكرك.

...

[٢٢] وأما وجه الخطر في التجربة فعلى ما أصف. اعلم أن كل جسم طبيعي فيوجد فيه نوعين من الأعراض: أعراض تلحقه من جهة مادته وأعراض تلحقه من جهة صورته. مثال ذلك الإنسان: فإنه تلحقه الصحة والمرض والنوم واليقظة من جهة مادته أعني من جهة ما هو حيوان و يلحقه أن يفكر ويروي ويتعجب و يضحك من جهة صورته. وهذه الأعراض التي تلحق الجسم من جهة صورته هي التي تسمى الخواص لأنها خاصة بذلك النوع وحده.

...

[٢٧] واعلم أن ثم أدوية يكون فعلها في أبداننا التابع لمادتها هو الظاهر البين وفعلها التابع لصورتها خفي جداً ... وهذا كله إنما أخرجته التجربة على مرور الأزمنة.

Gerrit Bos translates this passage into English as follows:<sup>13</sup>

[20] As to his statement "time is limited," it seems to me that he means with this that the time for [treating] the disease is far too limited to experiment. If you do not know all matters already verified by experience, but begin now to experiment with [certain] matters on this patient, time is too short for that and there is danger in beginning to

<sup>9</sup> *Hebrew Ethical Wills*, ed. Israel Abrahams (Philadelphia: Jewish Publication Society of America, 1948), vol. 1, p. 80.

<sup>10</sup> Maimonides, *Commentary*, ed. Bos, p. 321, para. 14.

<sup>11</sup> *Ibid.*, p. 421, para. 14.

<sup>12</sup> *Ibid.*, pp. 47, 49, 53, 55.

<sup>13</sup> *Ibid.*, pp. 46, 48, 52, 54.

experiment on this patient. All these words are in exhortation to be perfect in the art, so that all that has been tried throughout the years is present in your memory.

...

[22] The meaning of “danger in experience” is as I will describe [now]. Know that in every natural body there are two kinds of accidents: accidents that adhere to it with respect to its matter and accidents that adhere to it with respect to its form. Man is an example of this: Health and illness, sleep and wakefulness adhere to him with respect to his matter, that is, with respect to his being a living being, and it adheres to him that he thinks, reflects, wonders, and laughs with respect to his form. Those accidents that adhere to his body with respect to its form are those that are called “specific properties,” because they are specific to this species alone.

...

[27] Know that there are drugs whose action in our bodies, which occurs as a result of their matter, is clear and manifest, while their action, which results from their form, is very much hidden ... All this was indeed brought out by experience in the course of time.

Moses ibn Tibbon translates the passage as follows:<sup>14</sup>

[20] ואמרו שהעת צר יראה לי שהוא רצה בו כי עת החולי הוא צר וקצר מאד מן הנסיון כי אתה כשלא תדע הענינים כלם אשר התאמתו בנסיון אבל כשתבוא עתה ותנסה ענינים בזה החולה הנה העת צר מזה עם מה שיש בהתחלת הנסיון בחולה זה מן הסכנה. ויהיה המאמר כלו בזרוז על השלמות במלאכה עדשיהיה כל מה שהוא מנוסה בשנים שעברו עומד בזיכרונוך.

...

[22] ואולם אופן הסכנה בניסיון הוא כפי מה שאספר. דע כי כל גשם טבעי הנה ימצאו בו שני מינים מן המקרים: מקרים ישיגוהו מצד חמרו ומקרים ישיגוהו מצד צורתו. דמיון זה האדם הנה הוא ישיגוהו הבריות והחולי והשינה והיקיצה מצד חמרו ר"ל מצד שהוא בעל חי. וישיגוהו שיחשוב וישתכל ויפלא ויצחק מצד צורתו. ואלו המקרים אשר ישיגו הגוף מצד צורתו הם אשר יקראו סגולות כי הם מיוחדות במין ההוא לבדו.

...

[27] ודע כי יש סמנים תהיה פעולתם הנמשכת אחר חמרם בגופותינו היא נגלית מבוארת ופעולתם הנמשכת אחר צורתם נסתרת מאד ... זה כלו הוציאו הנסיון באורך הזמנים.

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<sup>14</sup> Ibid., pp. 323–25.