

THE BIOLOGICAL FOUNDATIONS OF INTELLECTUAL ELITISM: MAIMONIDES VS. AL-FÂRÂBÎ¹

OS FUNDAMENTOS BIOLÓGICOS DO ELITISMO INTELECTUAL: MAIMONIDES VS. AL-FÂRÂBÎ

Gad Freudenthal²

ABSTRACT

Modern thought takes it as an axiom that all men and women are born equal. Medieval thinkers held exactly the opposite view. They accepted a cluster of theories, taken from biology and physics, which implied that, owing to physical causes, human beings are born with different “temperaments”. The key term “temperament” denotes the “balance” of the components (elements or humors) in the body, which (according to medieval theories of the relationship between soul and body) determines the intellectual capacities of the individual. Now all medieval thinkers held that the “quantity” of knowledge (intelligibles, in the medieval parlance) acquired by an individual during his physical existence determines his afterlife, i.e. the survival of his rational soul after his physical death: the assumption was that “intelligibles” are indestructible (because

¹ *Acknowledgments:* For generous advice and helpful suggestions I am grateful to Herbert A. Davidson, Ruth Glasner, Bernard R. Goldstein, W. Zev Harvey, Sara Klein-Braslavy, Remke Kruk, Charles H. Manekin, Avraham Melamed, Shlomo Sela, and Mauro Zonta. This paper partly overlaps themes I discussed in my paper “Maïmonide: La détermination, partielle, biologique et climatologique de la félicité humaine,” Tony Lévy and Roshdi Rashed (eds.), *Maïmonide: savant, philosophe* (Louvain: Peeters, 2004). The present paper in some regards supersedes the French one, in which however some themes are discussed in greater length. Quotations from Maimonides’ *Guide* will follow R. Y. Qafah (ed. and trans.), *Rabbenu Moshe ben Maimon, Moreh ha-nevukhim. Dalâlat al-ḥaîrîn*, 3 vols. (Jerusalem, 1972), and Moses Maimonides, *The Guide of the Perplexed*, translated by S. Pines (Chicago: University of Chicago Press, 1963), occasionally with slight modifications.

² PHD em Filosofia pela Université de Paris, Sorbonne. Diretor Emérito de Pesquisa no CNRS (Centre National de la Recherche Scientifique), France. *E-mail:* gad.freudenthal@gmail.com

immaterial), so that the acquired intelligibles vouchsafe the immortality of the rational soul. Therefore, the foremost goal of any human being during his terrestrial existence was to acquire as many intelligibles as possible. This view, together with the assumption that the intellectual capacity of an individual depends on natural factors and is therefore “innate”, implied that in fine the survival of an individual’s rational soul is more or less predetermined at one’s birth. Some of the natural factors depend e.g. on the region in which one lives, implying that one’s prospects for afterlife depend in part on such contingent physical circumstances. This paper describes the relevant medieval theories and analyses in some detail the views of two major thinkers: Abū Naṣr al-Fārābī (Alpharabius; 870-950) and Moshe ben Maimon (Maimonides; 1138-1204).

Keywords: Maimonides. Al-Fārābī. Biological Foundations. Innatism. Cultural Elitism.

RESUMO

O pensamento moderno considera como um axioma o fato de que todos os homens e mulheres nascem iguais. Os pensadores medievais tinham exatamente a visão oposta. Eles aceitavam um conjunto de teorias, extraídas da biologia e da física, que implicavam que, devido a causas físicas, os seres humanos nascem com diferentes “temperamentos”. O termo-chave “temperamento” denota o “equilíbrio” dos componentes (elementos ou humores) no corpo, que (de acordo com as teorias medievais da relação entre alma e corpo) determina as capacidades intelectuais do indivíduo. Todos os pensadores medievais sustentavam que a “quantidade” de conhecimento (inteligíveis, na linguagem medieval) adquirida por um indivíduo durante sua existência física determina sua vida após a morte, ou seja, a sobrevivência de sua alma racional após sua morte física: a suposição era que os “inteligíveis” são indestrutíveis (porque imateriais), de modo que os inteligíveis adquiridos garantem a imortalidade da alma racional. Portanto, o

principal objetivo de qualquer ser humano durante sua existência terrestre era adquirir tantos inteligíveis quanto possível. Essa visão, juntamente com a suposição de que a capacidade intelectual de um indivíduo depende de fatores naturais e, portanto, é “inata”, implicava que, em última análise, a sobrevivência da alma racional de um indivíduo é mais ou menos predeterminada no nascimento. Alguns dos factores naturais dependem, por exemplo, da região em que se vive, implicando que as perspectivas de vida após a morte dependem em parte de tais circunstâncias físicas contingentes. Este artigo descreve as teorias medievais relevantes e analisa com algum detalhe as opiniões de dois grandes pensadores: Abū Naṣr Al-Fārābī (Alpharabius; 870-950) e Moshe ben Maimon (Maimonides; 1138-1204).

Palavras-chave: Maimônides. Al-Fārābī. Fundamentos Biológicos. Inatismo. Elitismo Cultural.

“All men, among themselves are by nature equal” Thomas Hobbes wrote in 1651, adding that “the inequalities we now discern hath its spring from the common law.”³ A century later Montesquieu similarly held that “in a true state of nature, indeed, all men are born equal,” observing however: “but they cannot continue in this equality.”⁴ The same view is expressed in the Declaration of Independence of the Thirteen Colonies of July 4, 1776: “We hold these truths to be self-evident, that all men are created equal...”

This idea has become so self-evident (and politically correct) that it may come as no little surprise to find Maimonides bluntly holding that *all men are by nature born unequal*, as in the following lines:

The difference in the capacity existing between the individuals of the [human] species with regard to sensory apprehensions and all other bodily faculties is manifest and clear to all men. The same holds of human intellectual apprehensions. There are great differences in capacity between the individuals of the species. This is also manifest and very clear to the men of knowledge. It may thus happen that whereas one individual discovers a certain notion by himself through his speculation, another individual is not able ever to understand that notion. ...⁵

Given this premise, it is not surprising that Maimonides states in the very beginning of the *Guide* that he will teach a *demonstrated truth* to a single virtuous man (*fâdil*), even if this means displeasing ten thousand ignoramuses (*jâhil*) who cannot follow such a high-level teaching.⁶

The view that men are born unequal appeared to Maimonides and his contemporaries as an indisputable fact of nature. By saying “unequal”

³ *Philosophical Rudiments Concerning Government and Society* (1651).

⁴ *Spirit of the Laws*, VIII, c.3: “In the state of nature, indeed, all men are born equal; but they cannot continue in this equality. Society makes them lose it, and they recover it only by the protection of the laws.”

⁵ *Guide* 1:31; trans. Pines, p. 65.

⁶ *Guide*, “Instruction with respect to this treatise”; trans. Pines, p. 16.

I have in mind above all the only aspect that really matters: intellectual capacities. For one's intellectual potentiality is what conditions his or her capacity to apprehend intelligibles, which is the highest good humans can attain and which, perhaps (depending on how one reads Maimonides) can even afford the immortality of the soul. The stance that humans are born unequal with respect to their intellectual capacities thus implies that they are unequal both in this world and in the one to come. Not by free choice, not as a result of what they do or do not do, but by birth, by natural necessity! Truly, a shocking thesis for modern ears.

For Maimonides and his contemporaries the view that men are by nature unequal was a logical consequence from a number of entrenched theories, which together posit a causal dependence of mind on various material variables. In what follows my aim is to sketch these theories and show that, taken in conjunction, they implied a deterministic dependence of intellectual capacities on biological constitution and hence a biologically-grounded elitism.

The theories involved belong to three distinct strata. A first layer includes various theories postulating that one's potential intellectual capacities at any time depend on his bio-physical constitution at that time. To the second stratum belong theories describing how the constitution of a living body is determined by the material environment. The third layer, finally, is a cluster of theories describing how the sublunar substances are constantly subject to "inputs" coming from the supralunar realm, i.e. from the heavenly bodies. Now of each of the theories involved, more than one version existed, and each thinker could subscribe to one or another according to his philosophical temper. We will thus see that whereas someone like al-Fârâbî derived largely determinist conclusions from the conjunction of these theories – holding that one's intellectual capacities hinge on one's parents and place of birth – Maimonides sought to avoid precisely this view.

I

Medieval biology linked one's intellectual potential with his⁷ bodily constitution. The first pillar of these theories comes from Aristotle, who held cognition to vary with the purity of the bodily parts.⁸ An animal body is composed of the four sublunar elements, and by "purity" Aristotle refers to the absence of earthy matter. The rationale of this thesis is as follows. Perception by a given sense organ occurs when that organ is affected by a sort of "imprint" originating in the outer world. Consequently, sense organs are more sensitive when they can easily be affected, i.e. when they are soft. Now in Aristotle's view—this is a corollary of his theory of matter or "chemistry"—the hardness or softness of any substance depends on the quantity of the element earth in it: the more earth it contains, the harder and more rigid it is. It thus follows that the sensitivity of a sense-organ is inversely proportional to its earthiness. This reasoning applies also to the heart, the central organ of perception, the biological locus of *phantasia*, in which sense-perceptions originating in the five sense-organs are synthesized. Consequently, the softer the heart is, the better the animal's sensual capacity and memory. Now accurate sense perceptions and a good capacity of "synthesis" in the *phantasia* are a necessary prerequisite for intelligence, with the consequence that the purity of an animal's matter conditions its intelligence. So far for the purely "chemical" aspect of intelligence.

This "biochemical" theory encompasses within its scope the psychological dispositions on the emotive level. Again, purity is the relevant variable. For instance, when one's blood is earthy, it heats more easily than when it is clear or pure. Now the heatings and coolings of the blood have important effects on an individual's conduct.

⁷ In this paper, the use of the possessive pronoun "his" should be understood as meaning "his or her"; Maimonides, writing in Arabic or Hebrew, did not have to make a choice on this usage, but, I am afraid, it must be assumed that he had in mind mainly men.

⁸ For what follows see Gad Freudenthal, *Aristotle's Theory of Material Substance* (Oxford: Clarendon Press, 1995), *passim*, and the references there.

This follows from the Aristotelian psycho-physiological theory which holds that emotional states vary with the state of “heating” of the blood: the physiological manifestation of anger, for instance, is heating of the blood around the heart. It follows that an individual whose blood is earthy will be more irascible than another. Needless to say, emotivity diminishes intellectual capacities. (See below how Maimonides draws on this theory.) Consequently, the strictly “chemical” law of nature according to which earthy matter heats more easily than pure matter implies that an individual whose blood is earthy will be more irascible, and therefore less prone to intellectual accomplishments, than another.

The material composition of one’s body thus largely conditions his intelligence. The question now is what determines the chemical composition of an animal’s body, and of a given bodily part within a given individual. This brings us to Aristotle’s biology. The fundamental theoretical concept of Aristotle’s biology is *vital heat*. Aristotle’s theory of vital heat has numerous ramifications and implications which I studied elsewhere.⁹ Among many other things, the earthiness of a given sense-organ or animal species depends on the quantity of its vital heat. The natural movement of heat is upward, and so in each animal the sense-organs located in the upper parts of the body will be the less earthy, and hence the more sensitive ones; they are the “noble” sense-organs. Similarly, the species of animals which have more vital heat will be more erect, and will therefore be less earthy, with the consequence that they will be more intelligent. This scheme nicely accounts for the fact, repeatedly stressed by Aristotle, that man, the only erect animal, is the most intelligent of all.

Again, animals having more vital heat have the larger hearts required to produce it. But large hearts, like large rooms, are not so quick to get chafed. It thus follows that those animals that have more vital heat will in general be less prone to an access of heating and hence will be less emotive. By the same token, in a given species, the individuals having less vital heat and whose blood is therefore more earthy will be more emotive than others.

⁹ See previous note.

For Aristotle, in sum, the independent variable determining the *scala naturae*, both within a given species and among different species, is vital heat. Aristotle's notorious (because politically incorrect) statement that the psycho-intellectual potential of women is inferior to that of men is an immediate corollary of this biological theory: women simply have less vital heat.

Limiting ourselves now to humankind, let us ask what determines an individual's innate vital heat, and hence his intellectual and psychological potential. Aristotle's answer is that it depends first and foremost on the vital heat of the male parent. According to Aristotle's embryology, the male semen is food that had been concocted by the vital heat and thereby *informed*. The embryo is formed when the male's *form*, which is carried by the semen, acts on and informs the material supplied by the female, viz. the menstrual blood (itself also concocted food). The semen concocts this female blood by the formative vital heat it carries, thereby *informing* it into a fetus having the male parent's form. In the ideal case, this form is transmitted without loss, and the newborn will resemble the father, in particular in being male. But if the male's vital heat fails to master the female material completely, then the form is transmitted inadequately or not at all, and "monstrosities" result. For instance, a cold bath may be enough to refrigerate the semen, the unfortunate result being a female baby. Thus, differences of the vital heat of the semen produce differences of the resulting souls and their capacities.

The upshot is clear enough: an individual's vital heat, and consequently his psychological capacities, including intelligence, essentially depend on the innate vital heat he has received from the father. So far the theory of vital heat.

Aristotle also subscribes to a second theory having implications for his view of the physiological foundations of thought capacities. This is the theory of the body's four constituents, identified (in different formulations of the theory) as the four elements or four qualities. According to this traditional theory, whose roots go back to the Presocratics and to medical thought, an organism is in a state of

health if and only if its four constituents are in a state of equilibrium. By the same token, a sense-organ will not perceive adequately if one of its constituents predominates over the others. More generally, the noetic capacities of an individual whose organism is not in a state of equilibrium will be impaired. This is one of the many propositions of the generally accepted Doctrine of the Mean.¹⁰

This theory was famously one of the pillars of a medical theory, which defined health as a state in which an individual's *temperament*, or *complexion*, is balanced.¹¹ Medical theory construed the body as made up of the four humors: red or yellow bile, black bile, phlegm and blood, affirming that the good functioning of both body and soul presupposes that they be in equilibrium. If one of the humors predominates, then the body is ill, and often the soul is so as a result. For instance, a predominant black bile produces melancholy. The physician's role is consequently to advise his patient on how to keep the balance of his humors intact, or how to restore it if fortuitously knocked out of balance.

Galen systematized this medical doctrine, including its part relating the temperament to psychical qualities. I cannot do here more than merely mention two of his treatises bearing on our topic, both of which were very widely diffused in Arabic. One is entitled "That the Powers of the Soul Follow Upon the Temperament [or: Complexion] of the Body" (*Fî ann quwâ n-nafs tâbî'a li-mizâj al-badan*)¹²: its title very well captures the entire doctrine expounded

¹⁰ See Theodore J. Tracy, *Physiological Theory and the Doctrine of the Mean in Plato and Aristotle* (The Hague-Paris: Mouton, 1969).

¹¹ See e.g. Georg Wöhrle, *Studien zur Theorie der antiken Gesundheitslehre* (Stuttgart: Franz Steiner Verlag, 1990) (=Hermes, Einzelschriften, Heft 36); Rudolph E. Siegel, *Galen on Psychology, Psychopathology, and Function and Diseases of the Nervous System* (= *Galen's System of Physiology and Medicine*, Part 3) (Basel: S. Karger, 1973), esp. pp. 173ff.

¹² Hans Heinrich Biesterfeldt, ed. and trans., "Galens Traktat 'Dass die Kräfte der Seele den Mischungen des Körpers folgen' in arabischer Übersetzung," *Abhandlungen für die Kunde des Morgenlandes*, vol. 40 (4) (Wiesbaden: F. Steiner 1973); idem, "Gâlînûs Quwâ n-nafs, zitiert, adaptiert, korrigiert," *Der Islam* 63 (1986): 119-36.

therein. Another treatise by Galen, *Peri Ethon* (*Kitâb al-akhlâq*), elaborates the idea that a man is born with a given temperament, which can be modified, albeit only slightly, and which thus remains largely constant throughout one's life.¹³

The biological theory of vital heat and the medical theory of temperament share two important ideas. First, the bio-psychical stance, i.e. the doctrine that an individual's psychological qualities depend on his biological make-up, specifically on the strength of his vital heat and on the equilibrium of his temperament. The second doctrine, in fact a corollary of the first, is that when the environment impinges on a living body it may modify its inner state, thereby altering ipso facto the functioning of its cognitive capacities. This proposition provided the theoretical grounds for the widely accepted climatological theory to which I will now briefly attend.

The *locus classicus* of the climatological theory is the Hippocratic *Airs Waters, and Places*,¹⁴ whose main theses are echoed in Aristotle's *Politics*.¹⁵ This Hippocratic treatise was translated into Arabic, in more than one version,¹⁶ and Galen's commentary on it was also available in Arabic.¹⁷ I will now in brief present a few facets of the Hippocratic

¹³ Paul Kraus, ed., "Kitâb al-akhlâq li-gâlinûs," *Bulletin of the Faculty of Arts of the University of Egypt*, vol. 5(1) (1937), Arabic section, 1-51. English translation: J.N. Mattock, "A Translation of the Arabic Epitome of Galen's *Peri Éthon*," in S.M. Stern, Albert Hourani and Vivian Brown, eds., *Islamic Philosophy and the Classical Tradition. Essays Presented by His Friends and Pupils to Richard Walzer on His Seventieth Birthday* (Oxford: Cassirer, 1972), 235-60. See also Richard Walzer, "New Light on Galen's Moral Philosophy," in Walzer, *Greek into Arabic* (Oxford: Cassirer, 1962), 142-63.

¹⁴ For an excellent introduction see Jacques Jouana, *Hippocrates*, trans. by M.B. DeBevoise (Baltimore-London: Johns Hopkins University Press, 1999), esp. 210-32.

¹⁵ *Politics*, 7, 7, 1327b23-33.

¹⁶ See *On Endemic Diseases (Air, Waters and Places)*, Edited and Translated with Introduction Notes and Glossary by J. N. Mattock and M. C. Lyons (Cambridge, 1969), xxxv-xxxviii.

¹⁷ Gotthard Strohmaier, "La question de l'influence du climat dans la pensée arabe et le nouveau commentaire de Galien sur le traité hippocratique des *Airs, eaux et lieux*", in Ahmad Hasnawi, Abdelali Elamarni-Jamal and Maroun Aouad, eds., *Perspectives arabes et médiévales sur la tradition scientifique et philosophique*

climatological theory in its Arabic version. This will allow us to see how the principles summarized above were applied and also prepare the ground for the discussion of Maimonides.

The Arabic version of *Airs Waters, and Places* states, for instance, that the types of men in Europe differ from one another “in size, stature, and appearance,” as well as in “the qualities of their souls.”¹⁸ These differences go back to the differences in climate, which bring about differences in the “coagulation of semen.” Underlying this inference is clearly the theory of vital heat. Other statements implicitly presuppose the theory of the four humors. Thus, the text details how different winds affect the inhabitants of a city both physically and psychically. For instance, the inhabitants of a city facing cold winds are mostly powerful, with hard, dry, strong and healthy heads. Their bellies are hard and dry, and their characters are “wild, not calm and quiet.”¹⁹ The inhabitants of Asia differ from those of Europe in that they are “better and more excellent” and in particular are “quieter and calmer,” the cause being the temperate, equilibrated climate.²⁰ The moderate climate also brings about people who have “fine characters,” who however are not brave or particularly industrious.²¹ These qualities are due to the fact that the seasons are even: because the seasons resemble one another, “the intellects of the inhabitants of Asia are not deranged. ...For this reason they

grecque (Actes du colloque de la SIHSPAI [Société internationale d'histoire des sciences et de la philosophie arabes et islamiques], Paris, 31 mars-3 avril 1993) (Louvain-Paris: Peeters, 1997), 209-16. Prof. Strohmaier promised an edition of the text, but it has not yet been published. An epitome was published in Hebrew translation: *Galen's Commentary on the Hippocratic Treatise "Airs, Waters, Places" In the Hebrew Translation of Solomon ha-Me'ati*, Edited with Introduction, English Translation and Notes by Abraham Wasserstein (= The Israel Academy of Sciences and Humanities, *Proceedings*, vol. 6, no. 3) (Jerusalem, 1982).

¹⁸ Ed. Mattock and Lyons, 150, 152.

¹⁹ Ed. Mattock and Lyons, 26, 30.

²⁰ Ed. Mattock and Lyons, 118-120.

²¹ Ed. Mattock and Lyons, 122.

do not become angry quickly, and they are not rough. Changes of the air are the reason for men's being moved to anger."²²

In *Airs Waters, and Places* the vital heat mostly remains in the background. But it is very explicitly evoked in a discussion of climatological theory included in the *Problemata*, which go back to the Aristotelian school, although not to Aristotle himself. This work is particularly relevant here because it was available in an Arabic translation, which I will follow.²³ The author explains the supposed fact that the inhabitants of the cold regions are fearful whereas those of the hot regions are brave by arguing that the living body must counterbalance the effect of the environment. The inhabitants of cold regions thus develop strong vital heat and are courageous, and the opposite applies to those of the hot regions.²⁴ Similar considerations allow the author to answer the question: "Why is it that one finds wisdom in the hot countries and the people in them are more alert and more suitably students of natural science, while in the cold countries the people apply themselves to practical work, crafts, and technical knowledge?"²⁵ The inhabitants of cold regions, having a hot constitution, are agitated and unsettled: resembling drunkards, they cannot study properly. By contrast, the inhabitants of hot regions, owing to their cold constitution, study thoroughly. Still, most intelligent of all are the inhabitants of the temperate climates. The author summarizes the generally accepted view when he writes: "The character [or: qualities: *akhlâq*] of the soul resembles the character [or: qualities] of the body. As when the constitution [*mizâj*] of the body is balanced, the constitution of the soul is balanced too. So also when the character of the body is altered through bad balance, then the

²² Ed. Mattock and Lyons, 136.

²³ F. S. Filius, ed. and trans., *The Problemata physica attributed to Aristotle* (Leiden: Brill, 1999).

²⁴ [Ps.-]Aristote, *Problemata* 14, 8 and 16; Arabic text in Filius, *The Problemata physica*, 630-633, 642-643.

²⁵ [Ps.-]Aristote, *Problemata* 14, 15 ; Arabic text in Filius, *The Problemata physica*, 640-643.

character of soul — viz. its thought, disposition, and intellect [‘aql] — likewise changes. When the bad balance inclines toward heat ... the internal parts cool down, and thought and intellect become like those of drunkards. By contrast, the bodies whose constitution is cold are the converse: the internal parts are hot, and the intellect and the thought are of those who are composed.”²⁶

The theories sketched above were generally accepted. The biologically or medically-defined constitution of an individual was construed as inborn and as determining one’s intellectual capacities. Note that this biological or medical doctrine is at cross purposes with that of the *De anima* tradition: the latter ascribes to man qua man a potential, or material, intellect, and does not make allowance for the idea that the material intellects of different individuals may differ qualitatively.

II

It is easy to see that, taken together, the theories sketched above imply a deterministic theory of the intellectual capacities of individuals and human groups. I will now briefly describe how al-Fârâbî (870-950) combined these elements and what consequences he drew from the resulting synthesis. Fârâbî’s necessitarian account will be useful as a back-drop against which to assess Maimonides’ views.

Fârâbî developed his views on the question mainly in his work variously known under the titles *al-Siyâsah al-madaniyya*, i.e. the “Political Regime,” or *Kitâb mabâdî al-maujûdât*, i.e. the “Principles of Existing Things.”²⁷ This work has been translated into Hebrew by Samuel Ibn Tibbon under the title *Hat<.>halot ha-nim<.>sa’im*.²⁸

²⁶ [Ps.-]Aristote, *Problemata* 14, 1; Arabic text in Filius, *The Problemata physica*, 627.

²⁷ Fauzi M. Najjar, ed., *Al-Fârâbî’s “The Political Regime” (Al-Siyâsa al-Madaniyya, Also Known as The Treatise On the Principles of Beings)* (Arabic) (Beirut: Imprimerie catholique, 1964).

²⁸ Samuel Ibn Tibbon’s Hebrew translation was edited on the basis of two manuscripts by Zvi Filipowsky in the almanac *Sefer ha-asif* for the year 5609 (Leipzig, 1849), 1-64. For whatever reason, the printed Hebrew text does not always render

The thrust of the first part of Fârâbî's book is to explain causally the physical *cum* psychical differences between what he calls *umam*, i.e. human collectivities of a medium size, differences, he explicitly says, that condition their possibility to attain "the most noble thing," viz. intellectual perfection and, hence, felicity. The problem is indeed challenging: although Fârâbî does not repeat this in the present work, we know that he held the world to proceed from a unitary First Cause and in different works he explained how the observed plurality and diversity in the immaterial and material worlds emanate from it. In the present treatise, he addresses a specific aspect of this issue, namely: how is the variety among communities and individuals brought about, given that the universe proceeds from a unitary Cause? Given Fârâbî's premises, we should indeed expect that the supernal, immaterial world of the intellects is entirely "symmetrical" with respect to this lower, material world of ours, which should, therefore, be entirely symmetrical and undifferentiated too: from whence, then, arise the inhomogeneity, difference and diversity of the material beings? Fârâbî's analysis has two components: one concerns the physical causality, the second the "formal" causality, exercised on man by the active intellect. Consider them in turn.

There are, Fârâbî says,²⁹ two natural—i.e. physical—differences between men dwelling at different places: their physical appearances, i.e. physiognomies, and their traits of character. Both, he states, ultimately go back to differences between the zones of the sky situated at their respective zeniths: differences between the zones of the "first celestial sphere" (presumably the star-less sphere); differences between zones of the sphere of the fixed stars; differences between

exactly the Arabic original. The treatise has also been translated into German and modern Hebrew: *Die Staatsleitung von Alfârâbî*. Deutsche Bearbeitung ... aus dem Nachlasse des Dr. F. Dieterici herausgegeben ... von Dr. Paul Brönnle (Leiden: Brill, 1904); Shukri B. Abed, trans., Abû Nasr Muhammad Alfârâbî, *The Political Regime* (also known as *The Treatise on the Principles of Beings*) (Hebrew) (Tel Aviv: University Publishing Projects, 1992). (This translation indicates the page numbers of the Arabic edition).

²⁹ For what follows see Najjar, ed., *Al-Siyâsa*, 70:6-71:13; Heb. translation: ed. Filipowsky, 33-34.

the inclinations of the orbs of the planets. Last but not least come variations of the distances of the planets from the earth and differences of their positions and motions with respect to the earth: the planets now approach it, now recede from it; they are now in conjunction, now in opposition; now visible, now occulted; now move rapidly, now slowly. All these variables introduce a heterogeneity in the celestial realm, a diversity that is sufficiently great to account, as he will explain, for the enormous variety of species and individuals on earth.

Fârâbî, we see, argues that although the celestial realm emanated from the First Cause, it is yet *asymmetric* with respect to different points on the earth, with the consequence that different places in the sublunar realm are affected by different celestial influences. (Recall that the sun's inclined ecliptic had already been identified by Aristotle as the cause for generation and corruption.³⁰) Fârâbî, who opposed astrology,³¹ emphasizes that although the planets are of one ("the fifth") substance and have no qualities, they are yet capable of producing contrary qualities in the sublunar matter.³² Consider how.

First, the noted heterogeneity in the celestial realm brings about a heterogeneity of the parts of the earth situated under them. Fârâbî presumably thinks of the fact that the latitude of a place, say, i.e. its position with respect to the sun, determines whether it will be arid and a desert or rainy and fertile. Generalizing this statement, Fârâbî states that differences in the positions of different places with respect to the different

³⁰ Aristotle, *De gen. et corr.* II:10.

³¹ See Thérèse-Anne Druart, "Astronomie et astrologie selon Farabi," *Bulletin de philosophie médiévale* 20 (1978): 43-7; idem, "Le second traité de Farabi sur la validité des affirmations basées sur la position des étoiles," *ibid.* 21 (1979): 47-51 and the literature.

³² Najjar, ed., *Al-Siyâsa*, 55:13-56:12; Heb. trans. ed. Filipowsky, 21. Fârâbî here does not allude to the view, ascribed to him by Maimonides (*Guide* 2.19), that the planets and the spheres carrying them differ, albeit slightly, in their matter. See on this issue Ruth Glasner, "The Question of Celestial Matter in the Hebrew Encyclopedias," Steven Harvey, ed., *Medieval Hebrew Encyclopedias of Science and Philosophy* (Amsterdam: Kluwer, 2000), 313-334, esp. pp. 313-322.

parts of the heaven can bring about important differences between them, although these are more difficult to associate with a specific cause.³³

We now move to the next link in the causal chain.³⁴ The heterogeneity of the parts of the earth in its turn results in that the exhalations produced at different places will differ: each kind of earth produces exhalations that “resemble” it. The differences between the exhalations, on their part, bring about differences in the air and the water at these places: the air is mixed with the exhalations, and the water has the subterranean exhalations for its material cause.³⁵ These differences of the water and the air at different places in turn naturally produce differences in the respective fauna and the flora. Consequently, people who dwell at different places are nourished by different kinds of food – differences that, we recall, all ultimately go back to differences in the zones of the sky at the zeniths of the corresponding places.

Now differences in kinds of nourishment have crucial effects on man, namely inasmuch as they produce differences in “the substances out of which men are generated.”³⁶ Fârâbî obviously refers to the semen and the menstrual blood, which, as already noted above, Aristotelian biology affirmed to be formed from concocted nourishment and which provide the fetus with its form and matter, respectively.³⁷ The differences of the semen and the menses going into individuals are, Fârâbî concludes, the formal and material causes of the differences in their physiognomy and of their characters.

³³ Najjar, ed., *Al-Siyâsa*, 70:8-13; Heb. trans. ed. Filipowsky, 33.

³⁴ Najjar, ed., *Al-Siyâsa*, 70:14 ff.; Heb. trans. ed. Filipowsky, 33 f.

³⁵ Aristotle does not subscribe to this view (see *Meteor.* I.13, 349b27 ff.), but it is sustained by Ibn Rushd; see *The Middle Commentary of Averroes on Aristotle's Meteorologica. Hebrew Translation of Kalonymos ben Kalonymos*, edited with Introduction, Critical Apparatus, and Hebrew-Arabic Vocabulary by Irving Maurice Levey (Dissertation, Harvard University, 1947), 50-51.

³⁶ Najjar, ed., *Al-Siyâsa*, 71:3 ff.; Heb. trans. ed. Filipowsky, 33.

³⁷ See e.g. Freudenthal, *Aristotle's Theory of Material Substance*, 22-6 and the references there. Like his contemporaries, Fârâbî subscribes to this theory; see e.g. Richard Walzer, ed. and trans., *Al-Farabi on the Perfect State. Abû Nasr al-Fârâbî's Mabâdi' arâ' ahl al-madîna al-fadila* (Oxford, 1985), 188-93.

Fârâbî has thus succeeded in what in the vocabulary of contemporary philosophy of science is called a “reduction”: the physical differences among men – both individuals and communities – have been reduced to, i.e. have been shown to follow from, differences within the celestial orbs situated at the zeniths of their respective dwelling places.

It remains to be seen how these differences of physiognomy and character are related to intellectual excellence, which is at the center of Fârâbî’s, and our, interest. In conformity with contemporary scientific consensus, Fârâbî holds that an individual’s inborn physical constitution is what conditions his intellectual capacities and hence his possibility to attain felicity: an individual born with a well-balanced temperament will be able to excel in intellectual achievement, while one born with a deficient constitution (unbalanced temperament) will not be able to, whatever be his efforts. Drawing on his notion of the active intellect, one of whose functions is to supply man with the “first intelligibles,” Fârâbî warns that

not all men are formed so as to be prepared to receive the first intelligibles. For humans are naturally generated with differently-graded potentialities, of which one is greater than the other. Among [men], some, owing to their nature, do not receive any of the first intelligibles; others, like the fools, receive them, but not in conformity with what they [really] are. But there are those who receive them in conformity with what they are—these are those whose constitution qua human being [*fitratuhum al-insâniyya*] is perfect. Only these, to the exclusion of the first ones, are capable of attaining felicity.³⁸

Fârâbî has thus shown that the diversity of individuals and of *umam*, both on the physical and on the psychical and cognitive levels, goes back to the heterogeneity of the parts of the heavenly realm. Through a necessary causal chain, the celestial influences determine

³⁸ Najjar, ed., *Al-Siyâsa*, 74:16-75:3; Heb. trans., ed. Filipowsky, 36-7.

the physical properties of the human bodies, i.e. their temperaments; these temperaments, in turn, condition the individuals' capacity to receive the formal influences reaching them from the active intellect. The bottom line is that *the place of residence determines whether and to what extent an individual or a community can reach intellectual perfection*. The fact that some societies are perfect, while others are ignorant, and that in every society some individuals are more perfect than others, is thus a natural *factum brutum*—a necessary outcome of natural causalities going back to the First Cause. To be sure, an excellent inborn potentiality is a necessary, but not a sufficient condition for attaining felicity: Fârâbî emphasizes that each individual also has to make use of his freedom of choice and conduct his life appropriately in order to attain intellectual excellence effectively.³⁹ Those not capable of attaining knowledge by themselves must turn to appropriate masters, whence the importance that for each society to have philosophers and prophets.⁴⁰

Al-Fârâbî's astrologico-climatological theory, as it may be called, clearly posits that the intellectual aptitudes, or potentialities, of individuals or groups, are determined at birth, notably by one's place of residence. To be sure, the innate potential can be modified e.g. by exercise, intake of substances, etc., but only within a given latitude. The basic intellectual capacity is determined.

Fârâbî's causal chain, let me observe, nowhere draws on any specifically astrological tenets. In particular, Fârâbî, who (as already mentioned) opposed astrology, did not claim, as the astrologers did, that an individual's capacities are determined by the celestial influences attaining the womb at the instant of conception or birth. Rather, the causal chain adduced by Fârâbî consists only of elements recognized as valid by Aristotelian natural philosophy, and indeed his scheme can be viewed as an attempt to "salvage" much of the astrologers' claims within the Aristotelian framework.

³⁹ Najjar, ed., *Al-Siyâsa*, 72:9-14; Heb. trans. ed. Filipowsky, 34 f.

⁴⁰ Najjar, ed., *Al-Siyâsa*, p. 75f.; Heb. trans. ed. Filipowsky, 37 f.

III

Against the backdrop of Fârâbî's deterministic theory, let us now consider the views of Maimonides. Let me first recall that he held Fârâbî in great esteem and thought very highly particularly of his treatise *Mabâdî al-maujûdât*: "All he [Fârâbî] wrote is fine flour, especially his treatise "The Principles of Beings,"" Maimonides advised his translator, Samuel Ibn Tibbon, who, probably for this reason, translated this treatise into Hebrew.⁴¹ Maimonides indeed shared most of Fârâbî's theoretical premises: he was familiar with, and endorsed Hippocrates *Airs, Waters, Places*,⁴² and also shared the idea "That the Faculties of the Soul Follow upon the [Physiological] Temperament" and in fact he seems to quote verbatim the title of Galen's treatise in the *Guide*.⁴³ Moreover, Maimonides also fully subscribed to the climatological theory.⁴⁴ We would thus expect Maimonides to endorse

⁴¹ Cf. I. Shilat, ed. and trans., *Letters and Essays of Moses Maimonides* (Heb.) (Ma'aleh Adumim, 5748 [1988]), 553. Some passages of the *Guide* can indeed readily be identified as carrying its mark and a systematic comparison of both works will presumably reveal more; see Freudenthal, "Four Implicit Quotations of Philosophical Sources," 123-5.

⁴² Cf. Joseph Schacht and Max Meyerhof, "Maimonides Against Galen, on Philosophy and Cosmogony," *Bulletin of the Faculty of Arts of the University of Egypt*, 5(1) (1937): 53-88, on p. 59, as well as Maimonides, *Commentary on Hippocrates' "Aphorisms,"* 23.15; Hebrew translation in Maimonides, *Ketavim Refu'iyim*, ed. by S. Muntner, 4 vols. (Jerusalem, 1961 ff.), 2:281.

⁴³ See *Guide*, 3:12; ed. Qafah, p. 3:484; English trans. by S. Pines, p. 445: "... it having already been said that the moral qualities of the soul are consequent upon the temperament of the body." Maimonides' Arabic wording reads: *ann akhlâk al-nafs tâbi'ah li-mizâj al-badan*; the Arabic title of Galen's treatise (see above n.): *fî ann quwwa al-nafs tâbi'ah li-mizâj al-badan*. See Freudenthal, "Four Implicit Quotations of Philosophical Sources," 122-3.

⁴⁴ This is evident e.g. in the references to the "Turks" or "Blacks" and their intellectual capacities in *Guide* 3:51 as well as in Maimonides' 25th Aphorism: in Y. Qafah, ed. and trans., *Rabbenu Moshe ben Maimon, Iggerot. Maqor we-targum* (Jerusalem: Mosad Harav Kook, nd), 149. Maimonides' sources are indicated in Lawrence V. Berman "Maimonides, the Disciple of Alfarabi," *Israel Oriental Studies* 4 (1974): 154-78, reprinted in Joseph A. Buijs, ed., *Maimonides. A Collection of Critical Essays* (Notre Dame: Indiana, University of Notre Dame Press, 1988), 195-214; see n. 30, on pp. 209-10. See also Steven Harvey, "A New Islamic Source of the *Guide of the perplexed*," Arthur Hyman, ed., *Maimonidean Studies*, vol. 2 (New York: Yeshiva University Press, 1991), 31-59; Abraham Melamed, *The Image of*

also the consequences which Fârâbî derived from the conjunction of all these elements and to subscribe to the astrologico-climatological theory. This is only partly the case, however: Maimonides fully endorses the stance that man's capacities are inborn, but he does not follow the Second Master in considering the heavenly spheres as the efficient cause of the psychological potentialities of individuals or groups.

Maimonides often repeats that individuals are born with an innate intellectual capacity. For instance, a prophet is, biologically speaking,

a human individual the substance of whose brain in its *original* constitution [*fî a<.>sl jiblatihi*] is extremely well proportioned because of the purity of its matter and of the particular temperament (*mizâj*) of each of its [the brain's] parts and because of its size and position... Thereupon that individual would [naturally] acquire knowledge and philosophy until he passes from potentiality to actuality...⁴⁵

Maimonides indeed explicitly says that the portion of emanation [*fay<.>d*] an individual receives depends first on “the disposition of his matter,” and, second, on his training.⁴⁶

One who was fortunate to have such a perfect natural disposition was the boy on Maimonides' secluded island. We recall that the boy could not understand the explanation he was given of the generation of animals in the bellies of females. Now to make the point that the boy's failure to understand this cannot be ascribed to his own personal stupidity, Maimonides stipulates that the boy was “of a most perfect natural disposition [*kâmil al-fi<.>tra giddân*]”.⁴⁷ This means that the boy possessed the greatest possible human intelligence: only the learning capacities of an individual with such an optimal natural

the Black in Jewish Culture. A History of the Other (Heb.) (Haifa: University of Haifa Press, 2002), esp. 164 ff..

⁴⁵ *Guide* 2:36, trans. Pines, p. 371.

⁴⁶ *Guide* 3:18, trans. Pines, p. 475.

⁴⁷ *Guide* 2:17, trans. Pines, p. 295.

disposition can serve to demonstrate the *principled* limitations of human reason *per se*.

Conversely, when Maimonides considers the case of an individual whose rational faculty is defective, he remarks that this can be due either to the imperfect “original natural disposition” (*min a<.>sl al-jibla*), or to the insufficiency of training.⁴⁸ Note that the imperfect “original natural disposition” here refers to the bodily constitution, i.e. to an imbalanced temperament. Some intellectual deficiencies are fortunately only temporary. Maimonides says that “the bodily faculties in youth impede the attainment of most of the moral virtues, and all the more that of pure thought [*al fikrah al-<.>s-afiyah*], which is achieved through the perfection of the intelligibles that lead to the passionate love [*ishq*] of Him. For it is impossible that it should be achieved while the bodily humors are in effervescence,” so that only when this boiling of the humors is quenched “the intellect is strengthened.”⁴⁹

According to the established biological theory, then, the primary factor determining one’s capacities is one’s innate disposition, i.e. the inborn mixture of the elements or humors, in short: the temperament. This is clearly a deterministic theory. Maimonides mitigates it, but only very slightly, by holding that original natural dispositions can be modified, albeit not very much, namely through appropriate inputs. Speaking of the imaginative faculty, Maimonides has the following to say, which applies to all inborn potentialities:

Now you should know that the perfection of the bodily qualities ... is consequent upon the best possible temperament, the best possible size, and the purest possible matter, of the bodily part that is the substratum of the faculty in question. This is not a thing whose lack can be made good or whose deficiency can be remedied in any way by means of a regimen. For with regard to a bodily part whose complexion [or: temperament] was bad in

⁴⁸ *Guide* 2:37, trans. Pines, p. 374.

⁴⁹ *Guide* 3:51; p. 3:684; Pines p. 627.

the original natural disposition, the utmost that a corrective regimen can achieve is to keep it in some sort of health; it cannot bring it to the best possible condition. If the defect derives from its size, position, or substance, I mean the matter from which it is generated, there is no means that can help.⁵⁰

The upshot of this biological determinism is that there are between men irreducible differences, as Maimonides is perfectly aware:

There are many differences between the individuals belonging to [the human species] so that you can hardly find two individuals who are in any accord with respect to one of the species of qualities, except in a way similar to that in which their visible forms may be in accord with one another. The cause of this is the difference of the mixtures [or: temperaments], owing to which the various kinds of matter differ, and also the accidents consequent upon the form in question.⁵¹

In a word: all men are by nature born unequal.

Maimonides thus concurs with Fârâbî that an individual's physical *cum* intellectual capacities are largely determined at his birth. But contrary to Fârâbî, Maimonides does not advertise his biological determinism and it was necessary to piece it together from occasional remarks. Having done so, we may now ask: on what depends one's inborn disposition? This is an anguishing question for anyone who cares about the well-being of his descendents. Fârâbî, we saw, offered an explicit and very clear answer to this question: one's constitution depends primarily of one's place of birth. And Maimonides? We can fathom that he does not share Fârâbî's view. Contrary to Juda ha-Levi, for one, Maimonides famously did not think that Israel was given prophecy because it dwelt at a specific place, or that prophecy ceased because Israel lived far away from the Promised Land; rather,

⁵⁰ *Guide* 2:36; trans. Pines, pp. 369-70. See also the passage quoted *supra*, p. .

⁵¹ *Guide* 2:40; trans. Pines, p. 382.

he held that prophecy in Israel has ceased after the destruction of the Temple owing to the Israelites' melancholy in exile, which unfavorably influences the psychological faculties required for prophecy.⁵² This clearly is an altogether psychological explanation, which denies at its basis the very idea of an astralo-climatological account: Maimonides thereby signals his rejection of the view that there is a causal connection between physiological-*cum*-intellectual excellence and a particular place of residence.

Maimonides thus denies, implicitly but nonetheless unmistakably, the very possibility of explaining the upcoming of intellectual excellence naturally, i.e. through an astralo-climatological doctrine of some kind. We thus are left with the question: how *does* Maimonides construe the distribution on earth of biological-*cum*-intellectual excellence? Seeing the primordial role philosophers and prophets have had and are to have in history, and given that a perfectly-balanced biological temperament is a necessary condition for excellence in philosophy as well as for attaining prophecy, Maimonides, it would seem, owes his readers an answer to the question: Why is it that at a given moment at a given place an individual like Moses was born, whereas at most times and places the individuals born have temperaments that do not even allow them to become philosophers? Put differently: Maimonides concurs with the *falâsifah* that at his birth an individual's physical *cum* intellectual capacities already largely *are* determined, but *how*, in fact, are they? This is a crucial question, which Maimonides, although aware of Fârâbî's treatment of it, all but alludes. Or, more precisely, in lieu and place of Fârâbî's account, Maimonides contents himself with the sibylline statement that a good bodily constitution as a "divine gift," a notion to which I will come back.

We now have to ask, first, why Maimonides rejected Fârâbî's theory and, second, what alternative account he himself had to offer (himself and his readers). At this point we face a juncture: whereas the analyses offered so far seem to me not to hinge on any specific interpretation of

⁵² *Guide* 2:36.

Maimonides' global project and thus to be uncontroversial, from now on the interpretation of Maimonides' intentions will necessarily depend on just such a view. Specifically, the interpretation of the reasons for Maimonides' rejection of the astralo-climatological schemes like Fârâbî's and of the alternative he suggests will be different according to the stand one takes on the still hotly debated question whether Maimonides believed what he said (notably in creation in time) or, on the contrary, secretly adhered to the doctrine of the eternity of the world. The interpretation that follows will presuppose the first view and proceed on that assumption.⁵³

I will suggest that naturalistic accounts of the distribution of physical *cum* intellectual excellence were unacceptable to Maimonides on several related counts: they were an integral part of a necessitarian view of the world, and hence of the doctrine of the eternity of the world; they were in uncomfortable proximity to astrology; and they were incompatible with Maimonides' indeterministic philosophy of nature. In a second move I will offer an interpretation of Maimonides' alternative account in terms of "divine gift."

IV

Maimonides, I submit, did not accept Fârâbî's astralo-climatological doctrine because it was part and parcel of the *falâsifâh*'s project of accounting for the world as the outcome of a necessary causality, itself an integral part of the postulate of the eternity of the world. In Chapter 19 of the second part of the *Guide*, Maimonides ascribes to Aristotle, and refutes, the position claiming to show that each and every species and individual in the world is the necessary consequence of the First

⁵³ I follow Herbert A. Davidson, "Maimonides' Secret Position on Creation," I. Twersky, ed., *Studies in Medieval Jewish History and Literature* (Cambridge, Mass., 1979), 16-40. This position has been vigorously stated recently also in Eliezer Schweid, Eliezer Schweid, *Ha-filosofim ha-gedolim shelanu. Ha-filosofia ha-yehudit bi-yemey ha-beynayim* (Tel Aviv: Yedioth Aharonoth/ Sifrey Hemed, 1999), 275-283 and in Herbert A. Davidson, *Moses Maimonides. The Man and His Works* (New York: Oxford University Press, 2004).

Cause. This doctrine, upholding the eternity of the world, Maimonides writes, affirms that “that which exists has proceeded from the Creator in virtue of necessity; that He, may He be exalted, is a cause and this world an effect and it was necessary that this should be so.”⁵⁴ Maimonides now engages a fictional dialogue with “Aristotle”:

We put a question to Aristotle, saying to him: You have demonstrated to us that the matter of everything that is beneath the orb of the moon is one and common to everything. What then is the cause of the differences between the individuals of every species?

It will easily be recognized that this is precisely the question to which Fârâbî’s *Mabâdî* provides an answer. Maimonides now puts the following answer into “Aristotle”’s mouth:

Then he [Aristotle] gives to us an answer to this, saying: The cause of the differences lies in the changes in the mixture of the compounds composed of this matter. For this common matter has in the first place received four forms, two qualities being consequent to each of these forms. In virtue of these four qualities, matter was transformed into elements for that which is composed of it. For these elements were first mixed through the action of the motion of the orb and then they combined. Consequently the differences in the compounds representing mixture of the elements came about through the differing measures of the warm, the cold, the humid and the dry. For in virtue of these various combinations, various dispositions to receive various forms come about in the compounds. Again through these forms, the compounds become disposed to receive other forms. And this continues constantly in this manner.⁵⁵

⁵⁴ *Guide*, 2:19; trans. Pines, 302 f.

⁵⁵ *Guide*, 2:19, trans. Pines, 304.

Although the details of the physical theory that Maimonides here ascribes to “Aristotle,” i.e. to the *falâsifah*, are not strictly identical with those of Fârâbî’s as described above, still, the thrust is the same: to describe the sublunar world as a *necessary consequence* of the eternal First Cause. Maimonides rejects this view, arguing, among other things, from “particularization.”⁵⁶

The fact that Maimonides does not accept Fârâbî’s account of the distribution of bodily *cum* intellectual excellence is clearly part and parcel of his general rejection of the necessitarian philosophy of nature: the question how individuals are formed whose constitutions allow them to become philosophers and prophets belongs to the category of phenomena Maimonides excluded from the scope of natural philosophy. Maimonides’ rejection of the astralo-climatological doctrine thus is an integral part of his attempt to circumscribe the domain of the applicability of natural science, making more room for divine intervention in worldly affairs.

But there is more to it. For had Maimonides *only* wanted to construe prophecy as depending on God’s will, the claim that He can “veto” an individual’s prophecy would have been sufficient.⁵⁷

⁵⁶ Herbert A. Davidson, “Arguments from the Concept of Particularization in Arabic Philosophy,” *Philosophy East and West* 18 (1968): 299-314.

⁵⁷ It is well known that Maimonides accepts the philosophers’ view of the necessary conditions an individual has to fulfill in order to become a prophet (on this aspect, the Law’s view is “identical with the philosophic opinion”; *Guide*, 2:32; trans. Pines, 361), but not of the sufficient conditions. “For we believe that it may happen that one who is fit for prophecy and prepared for it should not become a prophet, namely on account of the divine will” (*Guide*, 2:32; trans. Pines, 361). God has, so to say, the possibility to put a “veto” on someone’s acceding to prophecy (Davidson, “Maimonides’ Secret Position”): just like creation and miracles, prophecy depends on God’s sovereign will, it is a voluntary intervention in the natural course of nature, and thus escapes natural necessity. See also Julius Guttmann, *Die Philosophie des Judentums* (München: Verlag Reinhardt, 1933), 195; Schweid, *Ha-filosofim ha-gedolim shelanu*, 227. For different views see e.g. Alexander Altmann, “Maimonides and Thomas Aquinas: Natural or Divine Prophecy?” *AJS Review* 3 (1978): 1-19, esp. p. 8; Warren Zev Harvey, “A third Approach to Maimonides’ Cosmogony-Prophetology Puzzle,” *Harvard Theological Review* 74 (1981): 287-301 [reprinted in Joseph A. Buijs (ed.), *Maimonides. A Collection of Critical Essays* (Notre Dame: Indiana, University of Notre Dame Press, 1988), 71-88]; H. Kreisel, *Prophecy in Medieval Jewish Philosophy* (Amsterdam: Kluwer, 2001).

Maimonides could have salvaged God's sovereignty over prophecy and yet adhere to the astrologico-climatological account as far as the *preparation* of the necessary bodily conditions for it is concerned.

I suggest that Maimonides' refusal to regard the physiological constitution of men as the result of natural necessity is also related to his categorical rejection of astrology and all that smacks of it.⁵⁸ True, Maimonides in a general manner accepts the idea that the celestial influences determine many facets of the sublunar world, although it is noteworthy that he is cautious never to specify which.⁵⁹ Consider now Fârâbî's scheme: the precise nature of the influences exercised by the heavenly realm depends (among other things) on the details of the motions of the planets—their velocities and their positions relative to one another and to the earth (being in conjunction, opposition, occultation, etc.). It is these astronomical variables that *in fine* determine the effects the celestial bodies will have on the places on earth, and hence on the physiological constitutions of the individuals generated or dwelling there. Now for Maimonides the appeal to these astronomical variables is precisely what places a doctrine right at the heart of astrology. In a well-known phrase he mentions the notion that the planets “act at some particular distances, I refer to their nearness to or remoteness from the center, or their relation to one another” and

⁵⁸ See Y. Tzvi Langermann, “Maimonides' Repudiation of Astrology,” *Maimonidean Studies* 2 (1991), 123-58; Josef Stern, “The Fall and Rise of Myth in Ritual: Maimonides versus Nahmanides on the *Huqqim*, Astrology, and the War Against Idolatry,” *Journal of Jewish Thought and Philosophy* 6 (1997): 185-263; Gad Freudenthal, “Maimonides' Stance on Astrology in Context: Cosmology, Physics, Medicine, and Providence,” Fred Rosner and Samuel S. Kottek, eds., *Moses Maimonides: Physician, Scientist, and Philosopher* (Northvale, N.J. and London: Jason Aronson, 1993), 77-90, reprinted in *idem*, *Studies in the History of Science in the Medieval Hebrew and Arabic Traditions* (Aldershot: Ashgate [Variorum Collected Studies Series]), 2004], Essay IV.

⁵⁹ Thus Maimonides writes for example: “It is known and generally recognized in all the books of the philosophers speaking of governance that the governance of this lower world — I mean the world of generation and corruption — is said to be brought about through the forces overflowing from the orbs” (*Guide*, 2.10, trans. Pines, 270). Similarly: “there is a consensus of all philosophers to the effect that the governance of this lower world is perfected by means of the forces overflowing to it from the orb” (*ibid.*, 2.5, 260).

adds the comment that it is by virtue of this idea that astrology “comes in” (*dukhila li-’akhkâm al-nujûm*).⁶⁰ (This is so because actions that depend on angles and distances are bodily, on a par with light, contrary to formal causation as involved in emanation.)⁶¹ For Maimonides, a doctrine that accounts for whatever sublunar phenomenon, such as the diversity of human beings, by postulating celestial influences depending on the positions and motions of the planets thus threatens to get one right into astrology, or at least into too close proximity with it. Maimonides may have known that it was intellectually sound to uphold the astralo-climatological doctrine and at the same time reject astrology (Fârâbî, we recall, devoted two treatises to the refutation of astrology), but he apparently felt that the demarcation was fuzzy and that the audience and goal of the *Guide* required an utmost clarity on this issue.

The rejection of the necessitarian philosophy of nature and the (related) rejection of astrology are closely linked with a deep characteristic of Maimonides’ natural philosophy, namely its indeterminism. Here I can only briefly broach the issue. In a remarkable study, “Maimonides: Political Theory and Realistic Messianism” (1977), the late Amos Funkenstein identified in Maimonides’ philosophy of nature what he called a “principle of indeterminacy”: the essential element in that philosophy, he argued, is the construal that there is “an objective indeterminacy within nature itself” (in contradistinction to an epistemological indeterminacy that upholds only “a limit to our knowledge”).⁶² Funkenstein pointed out that this view of Nature as

⁶⁰ Maimonides, *Guide*, 2.12; ed. Qafah, p. 304; trans. Pines, 280 (my italics).

⁶¹ In point of fact, this doctrine, and its appeal to these astronomical variables, goes back to Alexander of Aphrodisias, and presumably owes nothing to astrology. It was accepted by many Aristotelian philosophers, including notably Ibn Rushd. See my paper “The Medieval Astrologization of the Aristotelian Cosmos: From Alexander of Aphrodisias to Averroes,” forthcoming in Christian Wildberg and Alan Bowen (eds.), .

⁶² Amos Funkenstein, “Maimonides: Political Theory and Realistic Messianism,” *Miscellanea Mediaevalia* 11 (1977): 81-103; reprinted in idem, *Perceptions of Jewish History* (Berkeley: University of California Press, 1993), 131-55, on pp. 89, 140, respectively.

being indeterminate has important consequences for Maimonides' views of the reasons of the commandments and of Messianism.

Elsewhere I seek to corroborate and complement Funkenstein's insight by pointing out another indeterminist element in Maimonides' natural philosophy. It is implied, I argue, by Maimonides' original four-globe cosmology presented in the *Guide* 2:9-10.⁶³ To summarize briefly, my suggestion is as follows. Maimonides posits four globes, each of which exerts its influence on a single element: the globe carrying the sun exerts its influence on the element fire, the globe carrying the moon exerts its influence on the element water, and the globe carrying all the fixed star exerts its influence on the element earth. The remaining element, air, is moved by a globe which groups together the spheres of five planets (which Maimonides supposes to be all above the sun). In Maimonides' formulation:

while the four globes having stars have forces that overflow from them as a whole toward all the things subject to generation ... each globe is also specially assigned to one of the four elements, the globe being the principle from which the forces of that particular element exclusively derive and that in virtue of its motion causes the element to move in the motion of generation.

Specifically:

thus the globe of the moon moves the water, the globe of the sun the fire, while the globe of the other planets moves the air. It is [Maimonides adds in parenthesis] because of the multiplicity of the motions of these planets -- their differences, their retrogressions, their direct progressions, and their stations -- that the shapes of the air, its differences, and its rapid contractions and expansions are multiple. The globe of the fixed stars moves the earth. Perhaps the earth is so sluggish in moving to

⁶³ Gad Freudenthal, "Maimonides' Four Globes (*Guide* 2:9-10): Sources and Purposes" (Heb.), Aviezer Ravitzky, ed., .

receive the action being brought to bear upon it and in undergoing combinations because of the slowness of the fixed stars in their motion.⁶⁴

Maimonides draws on this model in his interpretation of Ezekiel's visions of the Divine Chariot, but I need not here go into this.⁶⁵ My interest here is to point out one consequence of Maimonides' unusual cosmology on the level of natural philosophy, namely that it introduces into the working of nature an indeterminist factor. This follows from the way Maimonides construes the globe acting on the element air. Compare Maimonides' scheme with Fârâbî's. The latter, we saw, holds that each planet exerts on the earth specific influences, whose precise nature depends on the planet's positions and motions relative to the other planets and to the earth. Maimonides' theoretical move pulls the rug away under this doctrine. Inasmuch as the five other planets are now grouped together in a single globe, which exerts its influences on the "layer" of the element air (the "atmosphere" in modern terms), Maimonides dispossessed them of their specific influences that depend on their individual motions and relative positions. The fundamental premise, presupposed by Fârâbî, according to which, in Maimonides' words, the planets "act at some particular distances, I refer to their nearness to or remoteness from the center, or their relation to one another,"⁶⁶ — this premise is invalidated in Maimonides' alternative cosmology. Instead of the individual planets that through the great diversity of their motions and positions produce the great variety of "kinds of earth" and hence the great variety of sublunar beings, Maimonides posits a single "globe" producing non-specific effects. The fundamental postulate of the astralo-climatological account, has thus been undermined, and with it all accounts resting on it. This, I submit, is one of the consequences of Maimonides' four-globe cosmology.

Moreover: when Maimonides writes that "it is because of the

⁶⁴ *Guide* 2:10 ; ed. Qafah, 2:293-4; trans. Pines, 270-71.

⁶⁵ See e.g. Davidson, *Moses Maimonides*.

⁶⁶ *Guide*, 2:12, trans. Pines, 280, quoted above.

multiplicity of the motions of these planets—their differences, their retrogressions, their direct progressions, and their stations—that the shapes of the air, its differences, and its rapid contractions and expansions are multiple”⁶⁷ he seems to suggest that the (apparent) irregular motions of the planets produce the irregular motions of the air; the latter’s motions are what in modern terminology can be called “stochastic influences.” This is significant: the very variables that Fârâbî took to participate in producing the *determinate* natural order on earth are taken by Maimonides to globally produce mere haphazard movements of the element air. This indeterminate nature of the air’s motions has momentous consequences for man’s mental life. Specifically, the air inhaled by man is of great importance for his physical constitution and, consequently, for his mental capabilities at each moment.⁶⁸ Consequently, the astral indeterminism encompasses within its scope not only nature, but the psychical and intellectual functioning of man too. The stochastic environment in which man dwells rules out a deterministic theory of mental functioning à la Fârâbî.⁶⁹

Put in a nutshell, through his four-globe cosmology, *Maimonides replaces Fârâbî’s astral determinism with an astral indeterminism.* This result allow us to pose anew the question: How does Maimonides account for those facts that Fârâbî explained through his astral-climatological theory? What, in Maimonides’ view, determines the physiological characteristics of individuals and communities? In other words, how does Maimonides construe the fact that a given fetus is endowed with a better physical constitution than another and thus with a greater potentiality for felicity?⁷⁰ I already hinted that

⁶⁷ *Guide*, 2:10, trans. Pines, 270. This topos was common in medieval natural philosophy; see my “Maïmonide: La détermination,” n. 144.

⁶⁸ See e.g. Maimonides, *Hanhagat ha-Beri’ut*, § 4, 1; in Muntner, ed., *Ketavim Refu’iyyim*, 1:65-6 and the sources indicated in my “Maïmonide: La détermination,”. See also G. Bos, “Maimonides on the Preservation of Health,” *Journal of the Royal Asian Society*, series 3, 4(2) (1994): 213-35, esp. p. 225.

⁶⁹ The discussion of this issue is fuller in “La détermination astrale.”

⁷⁰ *Guide*, 3:8; ed. Qafah, 3:470; trans. Pines, 433.

Maimonides' answer is encapsulated in two words: *divine gift*: "If it so happens [*idhâ ittafaqa*] that the matter of a man is excellent, and suitable, neither dominating him nor corrupting his constitution," Maimonides writes, then "that matter is a divine gift" (*mawhiba ilâhiyya; matana elohit*).⁷¹ In the *Introduction to the Commentary on the Mishnah*, he similarly says that the King Salomon's wisdom was a "divine power" (*quwwa ilâhiyya*).⁷² And in the *Book of Knowledge* he affirms that the human intellect "comes from God and has its origin in the heavens."⁷³ But saying all this obviously only pushes the problem one step back, for we are not told how the divine gift or power is distributed on earth. This is a theologically weighty question, of primary importance for anyone concerned about the fate of his progeny.

The notion of "divine gift" goes back at least to Plato and Aristotle.⁷⁴ In the *Meno*, Socrates states that virtue is acquired neither by nature nor by teaching, but "whoever has it gets it by divine dispensation."⁷⁵ Aristotle, in the *Nicomachean Ethics*,⁷⁶ asks whether happiness is acquired through our own doing or "comes by some divine dispensation (*theia moira*)" and is "a gift of the gods (*theiôn dôrêma*) to mankind," expressions translated into Arabic as *ha<.>z<.> min Allah* and *mawhiba min Allah*.⁷⁷ Aristotle opts for the view that happiness "comes through some process of learning or training," but inasmuch as he considers utmost happiness to be the activity of the intellect which is "the divinest of the things in us" and that happiness is "most divine," he at least points into the direction of the idea that intelligence itself and

⁷¹ *Guide* 3:8; trans. Pines, 433.

⁷² Shilat, *Haqdamot ha-Rambam la-Mishnah*, 352.

⁷³ *Hilkhot yesodey ha-Torah*, 4:9.

⁷⁴ The following references I owe to the erudition and helpfulness of my colleague Ahmed Hasnaoui, to whom I am much indebted.

⁷⁵ *Meno* 99 e (trans. W.K.C Guthrie).

⁷⁶ For what follows see *Nicomachean Ethics* 1.9, 1199b10 ff.; 10.7, 1177a13 ff. I used the translation in Christoph Rowe and Sarah Broadie, *Aristotle, Nicomachean Ethics* (Oxford: Oxford Univ. Press, 2002), with the commentary on pp. 282, 441.

⁷⁷ The Arabic is in ed. Badawi (Kuwait, 1979), p. 73.

its activity are both a divine gift. Averroes, in his Middle Commentary on the *Nicomachean Ethics*, repeats the same account.⁷⁸ It thus seems that Maimonides borrowed the notion of “divine gift” from Aristotle, presumably indirectly, although he attributes to it a very different meaning: Aristotle had in mind the origin of human happiness and intelligence *as such*, whereas for Maimonides the “divine gift” is an excellent bodily constitution, and hence superior intelligence, bestowed upon specific *individuals*. We thus have a terminological continuity but an ideational discontinuity and we should ask how Maimonides construed the notion of “divine gift” within the framework of his own philosophy.

“The principle of indeterminacy,” Amos Funkenstein wrote, “allowed [Maimonides] ... to introduce most miracles—or more generally, instances of special providence—without violating laws of nature.”⁷⁹ The “divine gift” of a perfect bodily constitution is another case in point: the “divine gift” of a good bodily constitution is obtained as a result of the deity’s sovereign will, the same will that operated also creation, the “particularization” of certain celestial phenomena, and miracles.

[Students of Maimonides who see in the *Guide* an esoteric text whose author hid (among other things) his belief in the eternity of the world will naturally reject this interpretation. They may interpret the notion of “divine gift” as alluding to the fact that an embryo results from the necessary natural action of the body’s “formative forces” (a notion taken over from Galen), which Maimonides identifies with the angels, who act by God’s order. “All this—including ...even the creation

⁷⁸ Laurence V. Berman (ed.), *Averroes’ Middle Commentary on Aristotle’s Nicomachean Ethics*, in the Hebrew Version of Samuel ben Judah (Hebrew) (Jerusalem: The Israel Academy of Sciences and Humanities, 1999), p. 80, ll. 472-473..

⁷⁹ Funkenstein, “Maimonides: Political Theory,” 90, 141, respectively. See Alfred A. Ivry, “Neoplatonic Currents in Maimonides’ Thought,” in Joel L. Kraemer, ed., *Perspectives on Maimonides. Philosophical and Historical Studies* (Oxford, 1991), 115-40, esp. 119, 121, 127 for the suggestion that this aspect of Maimonides’ philosophy of nature goes back to Plotinian sources.

of limbs of animals as they are—has been brought about through the intermediation of angels. For all forces are angels,” Maimonides writes.⁸⁰ This holds specifically of the “formative force shaping the limbs and giving them their configuration” that the deity has placed in the sperm via the active intellect.⁸¹ Seeing that the constitutions or temperaments of living beings thus all ultimately go back to God (and are thus “divine”), interpreters holding that Maimonides denied divine intervention in the order of nature may construe the expression “divine gift” as merely signaling that a particularly good bodily constitution is a “gift” in the sense that it is both rare and invaluable.]

IV

My main claim in this paper has been that Maimonides’ intellectual elitism is theoretically grounded in contemporary biological and climatological theories: Maimonides holds that men’s constitutions, and hence intellects, differ at birth; this is a hard fact of nature. Constitutions can be modified—indeed every individual is obligated to improve his intellectual faculties as far as he can. Yet the possible improvement of any individual’s capacities is strictly limited, namely by the very material make-up of his body.

What is it that determines the intellectual capacities of an individual or a community? Fârâbî, we saw, who shared Maimonides’ view of the inequality of intellectual capacities, offered a necessitarian account of the distribution of excellence on earth. He in fact does no more than combine entrenched biological and climatological theories and draw from them their logical consequences. Maimonides is committed to all these theoretical premises, but still rejects Fârâbî’s necessitarian account. According to the interpretation offered here, one major reason for doing so was his wish to avoid that astrology is offered an entry, or even a wicket, through which to “come in.” Further,

⁸⁰ *Guide* 2:6, trans. Pines, p. 263.

⁸¹ *Guide* 2:6, trans. Pines, pp. 263-4.

Maimonides subscribed to an indeterminist philosophy of nature, which was incompatible with any necessitarian account of natural facts. As to the question how a good (or bad) bodily constitution is brought about, Maimonides says that it is a “divine gift,” a gift on whose nature and mode of distribution he remains silent. Following in the footsteps of Amos Funkenstein, it has been suggested that a “divine gift,” just as miracles, results from a voluntary intervention of God in an indeterminate nature.

Maimonides, let me note in conclusion, may have viewed himself as someone who benefited from the “divine gift.” In his letter to R. Jonathan ha-Kohen of Lunel he writes in 1199 that even before he was formed in the womb, the Torah had already chosen him and sanctified him to her study and teaching.⁸² Maimonides ably plays on similes and language of drawn from Jeremiah 1:5 to suggest that like the prophet he was given talents and obligations not dependent on his free choice.⁸³

The theological consequences of Maimonides’ stance are far-reaching. The apprehension of intelligibles is the highest good humans can attain, and it may even afford the immortality of one’s soul. The statement that a good constitution is a divine gift thus means that it is by divine will that humans are unequal both in this world and in the world to come.

⁸² Maimonides, *Letters and Essays of Moses Maimoni des* [Hebrew], ed. by I. Shilat (Ma’aleh Adumim, 5748 [1988]), 2:502.

⁸³ I leave it to others to decide whether Maimonides believed that he had in fact attained prophecy. See A.Y. Heschel, “Did Maimonides Believe that he Had Attained Prophecy?” (Heb.), *Louis Ginzberg Jubilee Volume* (New York: The American Academy for Jewish Research, 1945), Hebrew Section, 159-88.

