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al-Fārābī and the Development of Galen's Theory of Humor, Its Dimensions in Philosophy, Medicine, and Psychology Based on al-Fārābī's Manuscript 'Treatise on Humors'

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ABSTRACT

This study examines the differences between Galen and Al-Farabi regarding the factors affecting human health and humors. Galen emphasizes biological and environmental determinants, while Al-Farabi highlights mental, intellectual, and artistic influences. The aim is to provide a comparative analysis of these perspectives and their implications for holistic health. A qualitative, comparative approach was used. Textual analysis of Galen's medical writings and Al-Farabi's philosophical works was conducted. Key elements related to the causes of humor imbalance, health maintenance, and the role of cognitive and artistic practices were identified and compared. Galen's approach focuses on physical balance and external factors such as climate and lifestyle. Al-Farabi, however, emphasizes the mind, ethical conduct, meditation, and engagement with music and arts as crucial to well-being. Both acknowledge external influences, but Al-Farabi integrates psychological and intellectual dimensions into the understanding of health. Al-Farabi's perspective provides a holistic view that complements Galen's biological model. By combining mental, ethical, and artistic dimensions with physiological considerations, his framework offers a broader understanding of health. This comparison highlights the relevance of philosophical insights in contemporary discussions on psychosomatic and holistic health.

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Intruduction

Galen (129–216) developed the theory of the four humors, which formed the basis of his understanding of physical and psychological balance. He argued that health depends on the harmonious proportion of the bodily humors blood, phlegm, yellow bile, and black bile and that an imbalance in these humors could lead to both physical illness and psychological disturbances (Atiyyah, 1999, 129). In his work On the Powers of the Soul Dependent on the Humor of the Body, Galen explicitly linked the state of the body to the state of the soul, emphasizing that emotional and mental well-being is deeply connected to physiological conditions (Atiyyah, 1999, 54, 70). This holistic perspective directly influenced later thinkers, including Al-Fārābī, who adapted the concept of bodily-psychological equilibrium in his own philosophical and medical discussions.

The influence of Galen on Western medicine remained significant until the Middle Ages, where his works were considered a primary reference for European physicians. His impact was felt well into the Renaissance, and even with the progress of science and later discoveries (Francia & Stobart, 2014, 28). Arab philosophers and physicians were also deeply influenced by him, considering him the most knowledgeable in medicine, and they adopted his name as a title for those who became famous for their contributions to medicine. The Arab physician and philosopher Abu Bakr Muhammad ibn Zakariya al-Razi, known as "Galen of the Arabs," is regarded as one of the greatest doctors in the history of Arab and Islamic medicine due to his significant contributions, particularly in the scientific explanation of diseases and their treatments (Atiyyah, 1999, 38). Some Islamic sources attribute to Galen a view of the soul as a harmony of humors or of the parts of the body; regardless of the historical accuracy of this attribution, its significance lies in how this idea influenced Al-Fārābī and other Muslim philosophers, which is the focus of this study.

Abu Nasr al-Fārābī (872 - 950 CE), a philosopher and polymath, was also influenced by Galen, like other philosophers. al-Fārābī, known as one of the greatest thinkers in the history of Islamic philosophy, studied in Baghdad and, after acquiring knowledge, moved to Damascus (al-Fārābī, 1968, 71). He contributed to many intellectual fields such as philosophy, logic, music, medicine, and mathematics. al-Fārābī was a polymath in his knowledge and earned the title of "The Second Teacher" after Aristotle (al-Fārābī, 1931, 4). Although his contributions to medicine were not as profound as his influence on philosophy and logic, he did offer ideas that helped in understanding health and treatment within a philosophical and scientific framework. This is evident in the fact that, due to his extensive knowledge and deep understanding of the works of Greek philosophers, especially Aristotle's History of Animals, al-Fārābī corrected claims made by Galen regarding Aristotle's work, leading to a more accurate interpretation of what Aristotle truly meant (Aristotle, 1978, 30).

The idea for the research stemmed from a manuscript found during the study, consisting of three copies of al-Fārābī's manuscript titled " Treatise on the Humors” or “Risalah fi al-Mizaj”.

The first copy is located in the Archives and Manuscripts Center in Jordan, numbered (235) and consists of 8 pages. The second copy is held at Princeton University in the United States, with the number (794). The third copy is the original in Medina, which was transcribed on the 25th of Muharram, 1275 AH (corresponding to 4th September 1858 AD). All the copies consist of 8 pages in a large format.

The research originated from examining a rare manuscript of al-Fārābī titled "Risālah fī al-Mizāj" ("Treatise on the Humors"), of which three copies were identified. The first copy is preserved at the Archives and Manuscripts Center in Jordan, numbered 235, consisting of 8 pages. The second copy is located at Princeton University, USA, numbered 794, while the third copy, the original, is kept in Medina, transcribed on 25 Muharram 1275 AH (corresponding to 4 September 1858 AD) (al-Fārābī, 1275 AH). All three copies follow a large-page format. This manuscript provides insight into al-Fārābī's development of Galen's theory of humors and his philosophical elaboration on it.

This manuscript is considered one of the rare manuscripts of al-Fārābī, and it addresses the development of the theory of humors as presented by Galen. In the manuscript, al-Fārābī explains some aspects of this theory and discusses the concept of humors. al-Fārābī, as mentioned in his book "The Opinions of the People of the Virtuous City," asserts that the mixing of things with opposing qualities and their blending leads to different types of mixtures that form the various types of bodies (al-Fārābī, 1906, 38). Although al-Fārābī refers to many philosophers in this manuscript, he begins by mentioning Galen first, due to his stance on the philosophers concerning the theory of humors (al-Fārābī, 1275). He then refers to his teacher, the renowned Arab physician and translator of Greek books into Arabic, such as Aristotle's Poetics (Book 5), as well as translating from Syriac the book On Demonstration by Ishaq ibn Hunayn (Tarabishi, 2006, 630).

Galen built upon the theory of the four humors, originally proposed by the Greek physician Hippocrates (Kalachanis & Michailidis, 2015). According to this framework, human health depends on the equilibrium of four fundamental bodily fluids: blood, phlegm, yellow bile, and black bile. These humors interact dynamically, influencing an individual's temperament and overall health. Galen emphasized that any imbalance among these humors could result in physical illnesses as well as psychological disturbances, underlining the critical importance of maintaining both physiological and mental equilibrium (Irwin, 1947, 45–64; Stelmack & Stalikas, 1991). It is worth noting that the study did not primarily rely on Hippocrates' view of this theory, as it did not gain global recognition and influence until Galen developed it. Another reason is that al-Fārābī adopted Galen's theory and then further developed it, as confirmed by the manuscript "Risala fi al-Mizaj" (al-Fārābī, 1275).

Galen placed significant emphasis on the experimental aspect, linking his research on physiology and anatomy with metaphysical considerations (Atiyyah, 1999, 13). He focused primarily on the biological and medical aspects of humor, whereas al-Fārābī was more

concerned with the philosophical and spiritual dimensions of interpreting humor and health, considering the mind to play a central role in achieving internal balance. al-Fārābī believed that the mind and body work integrally, and health is only achieved through the balance between them, with the mind being the guiding force of the body. Thus, both had distinct views on how the balance of humor relates to various elements that influence physical and mental health. This raises the central research questions:

1. How do Galen's and al-Fārābī's understandings of the effect of balance between the four humors differ in relation to physical and mental health?
2. What factors does Galen believe directly impact humor and health? How do these differ from the factors that al-Fārābī focuses on?
3. How can a disturbance in mental balance in al-Fārābī's philosophy lead to physical diseases, as in Galen's theory of the four humors?
4. How can the two concepts, the biological impact of humor in Galen's theory and the mental and spiritual impact in al-Fārābī's, be integrated to achieve a healthy balance?
5. How do the treatments proposed by Galen and al-Fārābī for humor-related issues differ?
6. What is the impact of humor on human behavior according to Galen and al-Fārābī?

These questions highlight the differences and similarities between the philosophies of al-Fārābī and Galen in interpreting the role of the humors and the elements influencing them. They also open the door for further research on the relationship between the body and the mind in health. The importance of this research lies in exploring how philosophical thought interacts with medicine and how these ideas contributed to the development of both psychiatry and physical medicine over the ages. Furthermore, this research contributes to a deeper understanding of how psychological and physiological factors interact to achieve internal balance in health from a philosophical perspective.

1. Research Methodology

This study focuses on analyzing the theory of humors in the works of al-Fārābī, based on his manuscript *Risala fi al-Mizaj* ("Treatise on Temperament"), while tracing the roots of this theory in the views of Galen. It adopts a historical-analytical methodology that helps contextualize the philosophical and scientific background in which the theory emerged. The study also examines three manuscript copies preserved in Jordan, the United States, and al-Madinah, providing rich material for understanding the development of the concept of humors in Islamic thought compared with Greek philosophy.

The study analyzes how al-Fārābī engaged with Galen's theory, highlighting the philosophical differences between them, particularly concerning the relationship between the soul and the body and the impact of balancing the four humors on physical and psychological health. It further explores the therapeutic dimension of al-Fārābī's understanding of humors, which expands the concept to encompass mental and spiritual aspects, outlining a holistic approach that integrates bodily, psychological, and intellectual equilibrium.

Through a philosophical-critical lens, the study reviews the influence of al-Fārābī's ideas on the evolution of psychology and psychiatry, while identifying environmental, bodily, and psychological factors that affect the humors according to both Galen and al-Fārābī. It concludes by comparing their therapeutic approaches and demonstrating how Galen's biological interpretation and al-Fārābī's mental and spiritual interpretation can be integrated to achieve comprehensive health balance.

2. Theoretical Framework

2-1 The Concept of Humors: Origin and Foundation

The concept of humors in ancient Greek philosophy is considered one of the key ideas related to the interpretation of human nature and individual behavior. Greek philosophers believed that humor was not merely a passing feeling, but rather a set of essential qualities that influence an individual's character and behavior (Das, 2017). In the medical domain, particularly from a philosophical perspective, there is the theory of humors or fluids, which was adopted by Greek physicians and focuses on the detailed structure and functions of the human body (al-Razi, 1978, 11). This system relies on the idea that any excess or deficiency in one of the distinctive bodily fluids, known as humors, can directly impact an individual's mental and physical state. It is believed that each person has a unique composition of humors, leading to variations in temperament (Stelmack & Stalikas, 1991).

The roots of the concept of the four humors are linked to the ideas of the theory of the four elements: earth, fire, water, and air, proposed by Empedocles (490 BCE – 430 BCE) (Inwood, 2001, 116). This is later directly associated with the theory of the four humors established by the philosopher Hippocrates (Kalachanis & Michailidis, 2015), one of the most renowned physicians in history and the father of Western medicine, whose numerous brilliant works in the field of medicine have been passed down to us (Adams, 1886, 3). According to this theory, the human body is composed of humors (fluids), and the balance of these humors affects the individual's mood and health. There are also internal and external factors that influence health, such as the shape and size of body organs or even the composition of foods and drinks (Adams, 1886, 178).

Philosophers like Plato and Aristotle studied these humors in the context of their search for justice and ideal behavior (al-Razi, 1978, 35). Aristotle, in particular, believed that virtue requires a balance between excess and deficiency in each humor characteristic, and in Greek philosophy, humors represent the interaction between the body and mind. Understanding this interaction is part of studying human nature and guiding the individual toward a balanced and happy life (Aristotle, 1978, 85-88). al-Fārābī, in his manuscript *Risala fi al-Mizaj* ("Treatise on the Humors"), refers to the books from which we learn about the nature of things. Some of these books' present knowledge about things in general, while others are specific to each type of component. The knowledge of all these things is impossible to acquire, but it can be learned

through the study of generation and corruption. The work engages with medical doctrines that were originally translated from Greek into Arabic during the height of Islamic civilization in the medieval period. Within this intellectual context, al-Fārābī does not merely transmit the Greek material but philosophically interprets and integrates it into his own framework. The treatise was later discussed and commented upon by prominent scholars, including Ibn Rushd. Each type of thing has its own study; some relate to simple elements and are learned from the books of higher sciences, while others relate to complex things, some of which are studied in their entirety and others in parts (al-Fārābī, 1275).

The ancients emphasized the importance of aligning food with the body's humors, ensuring it is balanced when the body is in a moderate state. However, if there is an imbalance in the humors, such as an excess of blood or phlegm, foods that contradict the current state should be consumed to restore balance. Many philosophers were driven to investigate the relationship between humors and the provision of appropriate food that enhances strength and maintains bodily health. The body requires food that compensates for internal and external heat loss, while avoiding food that conflicts with the body's humor, as it may spoil the body and fail to properly digest. They observed that bodies vary in their natures (such as hot and cold), which subsequently affects their nutritional needs.

3. The Concept of Humors According to Galen and al-Fārābī

3-1 Galen's Concept of Humors

The study of humors was closely related to the theory of the four humors that prevailed in ancient Greek medicine (al-Razi, 1978, 11). According to Galen, humors resulted from the balance or imbalance between four primary fluids in the body: blood, phlegm, black bile, and yellow bile (Uwe Vagelpohl, 2014, 70-72). These humors governed a person’s health, emotions, and behavior. Galen believed that humors were a combination of basic forces that controlled the health and behavior of the individual. These forces or elements, referred to as the "four basic elements" (Atiyyah, 1999, 128), are:

- Fire: associated with heat and dryness.
- Air: associated with heat and moisture, in accordance with the classical humoral theory.
- Water: associated with cold and moisture.
- Earth: associated with cold and dryness.

According to the classical Greek medical tradition, each element corresponds to a specific pair of primary qualities, and air is characterized by heat and moisture.

Galen believed that there were six combinations, two of which are not sustained (realized) (Jawāmi' li-Kitāb al-Mizāj copied by Ḥunayn ibn Isḥāq, 2025). This is illustrated in the diagram below.

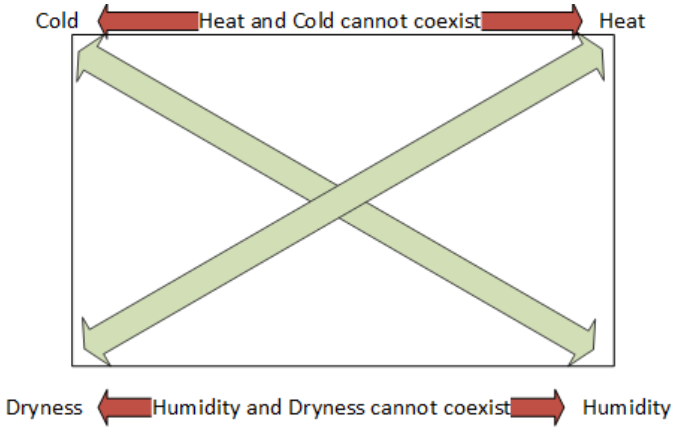

Figure1. Combinations of (Heat, Cold, Dryness, Humidity)

Galen viewed the human body's humor as a physiological composition resulting from the balance of these four elements (Aristotle, 1978, 65-66). According to this balance, human personalities differ, and various types of humor appear. He believed that humor could be divided into four main types based on the balance of these humors (Galen, 2014, 70-72). The four types of humor according to Galen are:

Based on the balance of these four elements, Galen divided the humors into four main types, which determine an individual's behavior and disposition:

- Sanguine humor: associated with air (heat and moisture), reflecting the classical correlation between blood and the hot-moist temperament. Sanguine individuals are often optimistic, social, and interact positively with others (Galen, 2014, 72; Mattern, 2008, 63).
- Choleric humor: Characterized by an excess of yellow bile (bile fluid), associated with fire (heat and dryness). Choleric individuals tend to make quick decisions, are assertive, and can be aggressive (Galen, 2014, 69-70).
- Phlegmatic humor: Characterized by an excess of phlegm, associated with water (moisture and cold) (al-Razi, 2000, 13-14). Phlegmatic individuals are generally calm, slow-moving, emotionally stable, but may be less emotional than others.
- Melancholic humor: Characterized by an excess of black bile, associated with earth (dryness and cold). Melancholic individuals are often sensitive, cautious, and deep thinkers, and may have a tendency towards sadness or anxiety.

The balance of these humors in the human body was considered the foundation of good health, and any imbalance in this balance could lead to health problems or affect behavior and mood.

3-2 al-Fārābī's Concept of Humors

Arab philosophers and physicians were influenced by Galen, as some of them studied under him, while others provided commentaries on his works (Atiyyah, 1999, 24). The Islamic philosopher al-Fārābī adopted the concept of humors in a way that aligned with the prevailing Greek philosophical ideas of his time, especially those related to the theory of humors

developed by Galen. However, al-Fārābī did not merely repeat these concepts; he added his own philosophical interpretations. He viewed humors as the alteration of the four qualities (heat, cold, moisture, and dryness) and their transition from one state to another until they reach a balanced, moderate state. Every living being, including humans, has different forces originating from the soul that govern its actions, such as nourishing, generative, and cognitive powers. Humans are distinguished by a scientific intellect that allows them to derive human actions, and they possess a mental essence that acts through the psychological powers (al-Fārābī, 1275 AH).

al-Fārābī believed that humor is not only a measure of the material qualities of the body, but it is also closely related to ethics and the soul. The balance of humors is considered essential for the health of the mind and soul (al-Razi, 1978, 20). If this balance is disturbed, it may lead to psychological or mental disorders such as sadness, anger, or anxiety. Therefore, there must be a balance between the body and the mind to achieve virtue and happiness. al-Fārābī also believed that human happiness, or ultimate happiness, is achieved when a person ascends intellectually and aligns more closely with the active intellect (al-Fārābī, 1938, 31). Additionally, al-Fārābī, through his focus on human ethics and social organization, connected humor to social and political aspects; he believed that virtue could be achieved when a person is in a state of internal balance, meaning when the mental and physical humors are in harmony. This led al-Fārābī to develop a comprehensive view of humor as being influenced not only by the humors but also by the soul and intellect, reflecting his deep interest in the relationship between the body and the mind and their impact on ethics and social life. He also integrated the philosophical understanding of the planets and cosmic forces with the internal balance of the elements, considering that human happiness or ultimate happiness occurs when one ascends intellectually and aligns more closely with the active intellect (al-Fārābī, 1938, 31). He saw it as an interaction between earthly and cosmic forces that affect health, not just physical elements (al-Fārābī, 1275 AH).

Human humor is the natural result of the body's composition and the characteristics of the four elements (earth, water, air, and fire) within the human being (al-Razi, 1978, 11). From this, al-Fārābī believed that the balance between these elements and the human psychological, physical, and intellectual forces directly impacts a person's behavior and disposition. This humor determines the emotional and psychological state of the individual, such as whether they are inclined toward calmness or irritability, happiness or sadness, etc. In al-Fārābī's philosophy, humor is not merely a transient state but an essential aspect of human nature. These humors can be influenced by external factors such as upbringing and environment, and thus a person can seek to modify their humor through knowledge and reason. The goal of one's work is first to correct oneself, and then to correct others. For example, Aristotle uses three types of speech in his books: clear in his personal works, obscure in some interpretations, and concise in his letters. The obscurity in his speech aims to test the learner's ability and to separate philosophy for those

who deserve it, while training the mind for patience. The person who learns from Aristotle should have already corrected their ethics and intentions toward truth. A student's love for Aristotle should be moderate, and they should not prefer Aristotle over the truth. The teacher should maintain a balance between authority and humility (al-Fārābī, 1275 AH).

al-Fārābī believes that "the true essence of humor is the change of the four qualities from their original state and their transition from one opposite to another." He applies this principle to many issues. For example, al-Fārābī views virtues as a state of balance between the various forces within the soul. A person can embody rationality, courage, justice, and empathy if they have a moderate and balanced humor. In contrast, if the humor is unbalanced (such as a person being prone to anger or laziness), it may lead to a deviation from virtues and result in psychological flaws. The central idea for al-Fārābī is that a proper understanding of humor and how to control it can help a person achieve mental and moral virtues, enabling them to reach true happiness (al-Fārābī, 1275 AH).

3-3 The Health Dimension of Humoral Balance: Interpretations of Galen and al-Fārābī

Both Galen and al-Fārābī had their own understanding of the theory of humor and its interpretation, which led each of them to develop distinct interpretations regarding the effect of the balance between the four elements on physical and mental health. Galen and al-Fārābī were among the philosophers and scholars who contributed to understanding this effect (Aristotle, 1978: PP.65-66). While both relied on ancient theories such as Hippocrates' theory of the four elements, each interpreted it based on their philosophical and scientific perspectives.

3-3-1 Galen's Understanding

Galen was influenced by Hippocrates' theories related to humors and the balance between the four elements (Irwin, 1947, 45-64). In his interpretation, he believed that human nature is affected by the balance of these elements in the body and associated each element with specific humors (Mattern, 2008, 63, 103, 135; Galen, 2014, 69-72):

- Fire is associated with the choleric temperament (enthusiasm, anger) (Stelmack & Stalikas, 1991).
- Air is associated with the sanguine temperament (optimism, activity) (Stelmack & Stalikas, 1991).
- Water is associated with the phlegmatic temperament (calmness, deliberation) (Stelmack & Stalikas, 1991).
- Earth is associated with the melancholic temperament (sadness, anxiety) (Stelmack & Stalikas, 1991).

Galen concluded that the balance between these humors determines the individual's physical and mental health. If there is an imbalance, it may result in physical diseases or psychological issues (Irwin, 1947, 45-64). He emphasized the role of environmental and humorous factors in maintaining this balance, although this theory became widely accepted only after his time (Irwin, 1947, 45-64).

3-3-2 al-Fārābī's Understanding

The intellectual fusion of Greek cognitive heritage with Islamic philosophical thought, which al-Fārābī inherited, gave him a philosophical depth that he utilized in interpreting humoral theory. He provided explanations of Aristotle's philosophy and commented on *On the Soul* by Alexander of Aphrodisius (bin Ya'ish, 2023, 52).

While al-Fārābī agreed with Galen on the importance of balancing the four elements, he emphasized the psychological and intellectual dimensions (al-Fārābī, 1938, 31). He believed that mental and physical health requires not only balancing the humors but also achieving harmony between the mind and body (al-Fārābī, 1275 AH). Thus, psychological well-being depends on the integration of mind and body, not solely on the physical balance of elements.

Al-Fārābī approached the balance between the four elements philosophically, viewing it as a mixture of forces that influence health. He explained that this balance is proportional between earthly and celestial forces, so health depends on internal and cosmic interactions (al-Fārābī, 1275 AH). Achieving human happiness, or the highest happiness, requires intellectual elevation and alignment with the active intellect (al-Fārābī, 1938, 31).

3-3-3 Differences in Interpretation Between al-Fārābī and Galen

a) Focus on Mind and Body: Galen focused on physical balance and the humors (Irwin, 1947, 45-64), whereas al-Fārābī emphasized mental and emotional equilibrium (al-Fārābī, 1275 AH).

b) Philosophical Influence: al-Fārābī integrated Islamic philosophical thought into his interpretations, stressing the soul and psyche (bin Ya'ish, 2023, 52), while Galen was primarily influenced by ancient Greek philosophy (Aristotle, 1978, 65-66).

3-3-4 Results

Al-Fārābī argued that imbalances in mental equilibrium lead to psychological and emotional disorders (al-Fārābī, 1275 AH), whereas Galen linked imbalances in physical humors to both mental and physical problems (Stelmack & Stalikas, 1991). While both agreed that the balance of the four elements is crucial for health, Galen prioritized the medical and physical aspects, and al-Fārābī integrated philosophy and reason, giving prominence to mental and psychological health (Mattern, 2008, 63, 103, 135; Galen, 2014, 69-72).

4. Factors that Are Believed to Have a Direct Impact on Humor and Health from the Philosophers' Perspectives:

4-1 The Factors Focused on by Galen

Galen believed that the human body is affected by biological factors, the most important of which are the four humors: blood, phlegm, yellow bile, and black bile. He considered the balance between these humors to be the fundamental factor in both physical and mental health. He also believed that "bodies that are predisposed to receive a disease are quicker to succumb to it than bodies that are not predisposed" (Uwe Vagelpohl, 2014, 124). Galen further emphasized the significant role played by environmental factors such as food, drink, physical

activity, air, and climate in influencing an individual's humor and health (Stelmack & Stalikas, 1991).

For example, bodily dispositions differ based on composition, humor, and conditions affecting the stomach. In terms of composition, the body is connected to two types of ducts that transport substances between the bile and the stomach, and any weaknesses in these processes affect digestion. In terms of humor, temperature influences how food is processed: a warm body digests light food quickly but slows down with heavier food, while a cold body faces difficulties in digestion, leading to issues like acidity. Phlegm and bile vary in their properties depending on the type of food consumed, contributing to either the balance or alteration of the body's state (Sulayman, 1992, 16-18).

4-2 The Factors Focused on by al-Fārābī

Based on al-Fārābī's manuscript "A Treatise on Humor", it has been found that humor and health are closely linked by several factors that affect both the body and the mind. According to the text, the following factors are believed to have a direct impact on humor and health:

a) Composition and Natural Elements: The manuscript suggests that humor is influenced by the balance of different elements, such as heat and cold, moisture and dryness. The effect of these elements is seen in how they interact within the body, as they can lead to either balance or imbalance, affecting both health and humor.

b) Celestial and Earthly Forces: It is believed that the interaction between celestial and earthly forces contributes to determining one's humor and health. The opposition of elements interacts to form a balanced state that can impact one’s overall humor and physical health.

c) Foods and Treatments: The text emphasizes the importance of food and medicine in their effects on both health and humor. Whether improving physical health or modifying humor, treatments vary between warming or cooling the body, strengthening it, or reducing certain imbalances depending on what is needed.

d) Ethics and the Soul: The manuscript also highlights the importance of improving one's ethics and soul in influencing both humor and health. It is necessary for a person to care for their mental and moral state to maintain both their mental and physical health.

e) Philosophical and Scientific Influences: The text discusses the role of philosophy and science in gaining a deeper understanding of the body and soul, and how knowledge of natural laws and temperaments can positively influence both health and humor.

The factors that affect humor and health include the balance of natural and celestial forces, the influence of food and treatments, the health of the soul and ethics, as well as knowledge of philosophy and science that aid in maintaining the balance between the body and mind.

4-3 Results

The differences between Galen and al-Fārābī regarding the factors influencing humors and health can be summarized as follows: Galen emphasized biological determinants, particularly the physical composition of the humors and the role of external environmental conditions. al-Fārābī, by contrast, attributed greater significance to mental and psychological factors, including meditation, intellectual cultivation, logical reasoning, and the impact of the arts and music.

5. The Influence of Humor on Human Behavior According to Galen and al-Fārābī: Differences and Integration

5-1 Galen's Perspective

Galen, who was deeply concerned with the balance of the four humors (blood, phlegm, yellow bile, and black bile), believed that any imbalance in these humors could significantly impact a person's humor and, consequently, their behavior. This idea was influenced by the teachings of the physician Hippocrates (Kalachanis & Michailidis, 2015). For example:

- Increased blood (sanguine humor) could lead to a cheerful and energetic humor, making the person more sociable and better able to engage in positive interactions (Jawāmi' li-Kitāb al-Mizāj copied by Ḥunayn ibn Isḥāq, 2025).
- Increased yellow bile (choleric humor) might result in a mix of anger and irritability, causing the person to be quick-tempered and impulsive in their reactions (Mattern, 2008, 135).
- Increased black bile (melancholic humor) could lead to depression and melancholy, making the person more introverted and sadder, thus avoiding social interactions or struggling with decision-making (Jawāmi' li-Kitāb al-Mizāj copied by Ḥunayn ibn Isḥāq, 2025).

The humor, according to Galen, is not limited to the physical body but also affects human behavior. He went further to state that the morality of the soul is closely connected to the humor of the body (Atiyyah, 1999, 110). He believed that if one of the humors was excessive or deficient, it could lead to unbalanced behaviors, such as excessive anger or lethargy. Therefore, treatment was aimed at trying to restore balance among the different elements, whether through medications, diets, or even physical activities (Stelmack & Stalikas, 1991). As a result, for Galen, humor influences behavior through its direct effect on the bodily humors, and whenever the balance in the body is disturbed, the behavior and humor are also disturbed.

5-2 al-Fārābī's Opinion

al-Fārābī focused on mental and spiritual balance. To him, humor was more about the psychological and intellectual state, which played a significant role in shaping human behavior. When humor is influenced by both the mind and emotions, it can determine how a person responds to situations:

- Mental balance leads to calm and balanced behavior, where the individual can handle social or professional situations with wisdom and poise.
- On the other hand, mental imbalance or emotional tension can lead to excessive or hasty behavior, such as heightened anger or constant anxiety, negatively affecting social relationships and the ability to make sound decisions.

5-3 Results

The Difference and Integration of Views Between Galen and al-Fārābī Regarding Human Behavior:

Galen believes that the imbalance of bodily humors directly reflects on behavior, as unbalanced humors affect mood and daily activities. On the other hand, al-Fārābī argues that mental and spiritual humor is the main factor in shaping behavior, with mental and emotional balance contributing to the regulation of reactions and feelings. Moreover, al-Fārābī highlights the importance of engaging in the arts, especially music, as a means to cultivate mental and emotional balance, which in turn supports the proper equilibrium of bodily humors and overall well-being (al-Fārābī, 1275 AH). Despite the differences in their perspectives, both Galen and al-Fārābī agree that balance whether biological or mental is the foundation that determines the impact of humor on behavior. When the humor is balanced, behavior appears positive and steady, while imbalance leads to unbalanced or harmful behaviors. In summary, according to both Galen and al-Fārābī, humor profoundly affects human behavior, either through the physical balance of humors or the mental and spiritual balance, determining how an individual interacts with themselves and their surroundings.

6. How Can Mental Imbalance in al-Fārābī's Philosophy Lead to Physical Diseases, as in Galen's Theory of the Four Humors?

6-1 In Galen's Theory of the Four Humors

Galen focused on preventative medicine. According to Galen's principles, a patient should maintain their health to avoid the need for medical intervention (Francia & Stobart, 2014, 179). He also believed that overall health depends on the balance of the four humors (blood, phlegm, yellow bile, and black bile). If this balance is disturbed, whether due to internal or external factors, it can lead to physical problems such as neurological or psychological disorders. For example:

- An increase in blood may lead to excessive energy or overjoyed moods, causing physical problems such as headaches, high blood pressure, or nosebleeds (GALEN, 2014,298; Uwe Vagelpohl, 2014, 136).
- An increase in yellow bile may cause an angry or anxious mood, leading to digestive problems or liver disorders (al-Razi, 2000, 157; Jawāmi' li-Kitāb al-Mizāj copied by Ḥunayn ibn Isḥāq, 2025).
- An increase in black bile may lead to depression and melancholy, causing sleep issues or loss of appetite (Jawāmi' li-Kitāb al-Mizāj copied by Ḥunayn ibn Isḥāq, 2025).

6-2 al-Fārābī's Opinion on Galen's Theory of the Four Humors:

al-Fārābī believed that a sound mind is what helps a person achieve psychological and emotional balance, and thus improves physical health. al-Fārābī's philosophy pointed out that certain factors could lead to an imbalance in mental health, such as:

a) Intense Emotions: Emotions such as anger, sadness, or excessive joy can disrupt the mind, leading to disturbances in the body. For example, excessive anger may lead to high blood pressure or digestive problems.

b) Anxiety and Psychological Disorders: Continuous psychological stress or anxiety can lead to physical effects such as insomnia, digestive problems, or a weakened immune system.

c) Illogical or Unbalanced Thinking: When the mind is confused or unable to think logically, it may result in imbalances in emotions, which in turn affect the body's health.

al-Fārābī believed that mental balance helps regulate emotions, thus maintaining physical balance, and that any mental disturbance, whether caused by emotions or unbalanced thinking, would have negative effects on the body.

6-3 Results of the Relationship Between al-Fārābī's Philosophy and Galen's Theory of Physical Diseases

a) The common concept between al-Fārābī and Galen is that both acknowledged the reciprocal influence between the body and the mind. In al-Fārābī's view, mental imbalance can lead to physical disturbances through its effect on psychological and emotional balance, while in Galen's view, an imbalance of the bodily humors can affect mood and mental health. This reflects the idea that the mind and body do not function separately but are closely interconnected in maintaining health and in the occurrence of disease.

b) To achieve comprehensive health balance, based on integrating the concepts proposed by both Galen and al-Fārābī, one should combine Galen's focus on the biological balance of the four humors in maintaining the body's health and mood, which requires a balanced diet, with al-Fārābī's view that mental and spiritual balance is the foundation for good health. Mental control of emotions and attention to intellectual growth help improve mood and mental health. By combining the care of the body through biological balance and the care of the mind and spirit through contemplation and logical thinking, a comprehensive health balance that connects the body and mind can be achieved.

7. Results of the Research

The Impact of Balance Between the Four Elements on Health: Both Galen and al-Fārābī focus on the fact that the balance of the four elements (earth, water, air, fire) in the body significantly affects both physical and mental health. Galen links these elements to different humors, while al-Fārābī integrates both mental and psychological aspects as well.

Galen's Understanding of the Four Humors: Galen demonstrates that the balance of the four humors (blood, phlegm, yellow bile, black bile) is the fundamental factor in physical and mental health. The balance between these humors depends on the humors that influence the body and mind. In contrast, al-Fārābī, in his interpretation of the theory of the four elements, focuses on mental and psychological balance, considering that both physical and mental health depend not only on humor balance but also on the harmony of the mind and body.

Differences Between Galen and al-Fārābī: There are differences between Galen and al-Fārābī, with Galen focusing more on physical balance and biological factors, while al-Fārābī believes that the balance of the mind and soul plays a central role in human health.

Galen's Focus on Environmental Factors: Galen emphasizes that environmental factors, such as food, physical activity, and weather, have a significant effect on humor and health, in addition to the balance of the humors in the body. On the other hand, al-Fārābī believes that both celestial and earthly forces, along with mental and psychological factors, play a significant role in maintaining humor balance and health.

Galen on the Impact of Humor on Behavior: Galen believes that the balance of bodily humors affects humor and behavior, while al-Fārābī asserts that the balance of the mind and emotions determines human behavior.

al-Fārābī's View on Mental Imbalance: al-Fārābī considers that mental imbalance leads to psychological and emotional disturbances, which may, in turn, affect physical health, while Galen links physical imbalance (such as an increase in blood or bile) to both mental and physical health problems.

Complementarity Between Galen and al-Fārābī's Theories: Despite the differences in approach between Galen and al-Fārābī, there is a complementarity between the two theories, as both emphasize the close connection between the mind and body in achieving complete health balance, where the disturbance of one lead to the disturbance of the other.

Conclusion

It appears that al-Fārābī took the theory of humors developed by Galen and added deep philosophical dimensions to it, moving beyond a purely biological interpretation to focus on the interaction between the mind and body. While Galen linked humors to the balance of the four humors and their effects on physical and mental health, al-Fārābī offered a comprehensive interpretation that included the importance of mental and psychological balance in achieving overall health. Despite the differences in their understanding, with Galen focusing on the biological aspect and al-Fārābī on the philosophical and spiritual dimension, both agreed that the balance of the four elements is essential for human health. Through this research, the impact of these ideas on the development of psychiatry and physical medicine in later eras becomes clear, as these theories contributed to enhancing our understanding of the connection between the mind and body in maintaining internal balance.

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