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From the Middle Ages to the Enlightenment: Historical Evolution and Ideological Transformation of the Holistic Health Concept

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ABSTRACT: As the core paradigm of modern health management, the holistic health concept has its theoretical foundation and historical evolution profoundly reshaped by the ideas of the Renaissance and the Enlightenment. From the perspectives of the history of medicine and the history of health thought, this paper systematically sorts out the evolutionary context of health concepts—from the "soul-dominated health concept" in the late Middle Ages, to the "humanistic-scientific integrated health concept" during the Renaissance, and further to the "mind-body dualism" and "structure-environment dual framework" in the Enlightenment. The study finds that: although the medieval health concept was centred on religion, it laid the prototype of "mind- body holism" and the ideological foundation for public medical care; the Renaissance, through the re-evaluation of the value of the human body by humanism and the breakthroughs in anatomy, promoted the shift of health cognition from "spiritual inspiration" to "physiological attribution"; driven by rationalism, the Enlightenment formed the practical paradigms of "mechanical medicine" and public health, but also fell into the cognitive limitations of "mind-body separation" and "materialism". These historical evolutions not only reveal the core logic of the health concept—from "sacralization" to "secularization" and from "individual care" to "social intervention"—but also provide historical lessons and practical inspirations for the modern "bio- psycho-social-spiritual holistic health framework".

KEYWORDS: Include at least 5 to 6 keywords or phrases

I. INTRODUCTION

The evolution of the health concept has always been in sync with the depth of human cognition of itself, nature, and society. The modern holistic health concept emphasizes "the overall balance of physical, psychological, social adaptation, and spiritual needs" (World Health Organization, 2021). However, it did not emerge out of thin air but is the result of centuries of ideological accumulation and practical exploration. In the late Middle Ages, under the triple background of theocracy rule, scientific obscurantism, and the threat of diseases, Europe formed a health cognition centered on "soul purity", attributing diseases to "divine punishment" or "soul sin", and medical practice was deeply bound to religious rituals. Nevertheless, the Renaissance, which emerged in the 14th century with "humanism" as its banner, reestablished the "value of humans", promoted breakthroughs in anatomy and physiology, and enabled the health concept to break free from the constraints of theology and shift towards focusing on "physical structure and natural needs". The Enlightenment in the 17th-18th centuries further used "rationalism" as a tool, analogizing the human body to a "precision machine", giving birth to pathological anatomy and the modern public health system. However, due to the overemphasis on "materiality" and "mechanicity", it separated the connection between the mind and the body and ignored the health value of the psychological and spiritual dimensions.

Existing studies mostly focus on the Renaissance's promotion of medical technology (such as Vesalius' contributions to anatomy) or the Enlightenment's impact on public health (such as the London sewer project). However, there is a lack of systematic ideological history sorting of the evolution of the "holistic health concept", especially neglecting the enlightenment significance of the "holism prototype" of the medieval health concept and the "historical limitations" of Enlightenment cognition for modern practice. Based on this, this paper takes "ideological transformation" as the core clue, combines medical history literature and historical cases, and systematically analyzes the evolutionary logic of the holistic health concept from the Middle Ages to the Enlightenment, aiming to answer three core questions: (1) How did the medieval "soul-dominated health concept" provide the "ideological seeds" of "holism" and "publicity" for the subsequent holistic health? (2) Through what ideological and technological breakthroughs did the Renaissance and the Enlightenment promote the shift of the health concept from "religiousization" to "scientization"? (3) What warnings and references do the historical limitations of health cognition have for modern holistic health management?

This study adopts the "ideological history analysis method" and "historical case empirical method" to sort out the core health concepts, key academic breakthroughs, and typical public health practices from the Middle Ages to the Enlightenment. It also conducts a critical analysis combined with the research results of modern medical history (e.g., Ackerknecht, 1982; Porter, 1997),

in order to provide theoretical support from a historical dimension for modern holistic health practice.

II. THE SOUL-DOMINATED HEALTH CONCEPT IN THE LATE MIDDLE AGES

In Europe during the late Middle Ages (13th-15th centuries), theocracy (centered on the Roman Catholic Church), scientific obscurantism, and the rampant spread of diseases jointly shaped the "soul-dominated health concept". This concept defined "health" as "the harmony between the soul and God" and regarded "disease" as "the external manifestation of soul sin". Medical practice was dominated by "religious rituals + basic herbal medicine". Although its cognitive core was marked by a strong theological color, it laid key groundwork for the subsequent holistic health concept in terms of "holistic health cognition" and "public medical practice".

In late medieval Europe, the church was not only a spiritual authority but also the core organizer of political and social life. In terms of scientific cognition, the medical theory of the ancient Greek scholar Galen (such as the "theory of the four humors") was mainstream, but it was integrated with church and theological ideas—for example, "humoral imbalance" was interpreted as "the disorder of the soul's control over the body" rather than a purely physiological phenomenon (Porter, 1997). At the same time, the outbreak of large-scale plagues such as the Black Death (1347-1351) caused a sharp reduction of 30%-50% in Europe's population. Since science at that time could not explain the mechanism of disease transmission, this further strengthened the cognition that "diseases are God's punishment for human sins" (Benedict, 2004). Against this background, "whether the soul is pure" became the core criterion for judging health, and "obtaining soul salvation through confession and prayer" became the main way to maintain health.

Although the "soul-dominated health concept" was centered on religion, it did not completely deviate from the "holistic human" concept. Instead, it provided positive support for the subsequent health concept in three aspects: The medieval health concept was the first to clearly put forward the proposition that "the body and the soul are inseparable"—the church held that "the soul is the master of the body, and the body is the container of the soul". Health requires both "soul purity" and "a disease-free body", and neither is dispensable (McNeill, 1976). For example, Thomas Aquinas, a 14th-century German theologian, pointed out in Summa Theologica that "disease is not only the pain of the body but also an obstacle to the connection between the soul and God". Therefore, treatment must include both "religious confession (to purify the soul)" and "herbal treatment (to repair the body)". This cognition of "the connection between the mind and the body" broke through the limitation of "only focusing on physical symptoms" and became the historical prototype of modern "mind-body holism". To achieve the goal of "serving God and redeeming the soul", the church regarded medical services as the core content of "religious charity" and promoted the development of inclusive medical care. On the one hand, monasteries set up medical facilities to provide free basic medical care for the poor—for example, the Trier Monastery in Germany in the 15th century provided herbal treatment, fracture fixation, and bloodletting therapy (the mainstream method of "balancing humors" at that time) for more than 1,000 poor patients every year; on the other hand, the church encouraged secular doctors to provide low-cost medical care for the poor through doctrines, clearly stating that "refusing to help poor patients is impiety to God" (Campbell, 1999). This concept that "medical care should serve all people" laid the "inclusiveness" ideological foundation for the modern public medical system (such as universal medical insurance).

To avoid "the community incurring further divine punishment due to sins", the church promoted a series of measures with public health nature. For example, Venice established a "quarantine system" in the 14th century, requiring ships from plague-stricken areas to anchor in the port for 40 days ("quarantine" comes from the Latin "quaranta dies", meaning "40 days"). This system was later adopted by various European countries and became the origin of modern border quarantine (Benedict, 2004); London issued a "Garbage Cleaning Order" in the 15th century, requiring residents to clean street garbage regularly to reduce the hidden risks of disease transmission. Although these measures originated from religious logic, they objectively improved urban sanitary conditions and became the prototype of the modern public health system. The theological core of the "soul-dominated health concept" also led to significant limitations in the development of scientific medicine and humanistic care, which became the main driving force for the subsequent transformation of the health concept:

The church regarded the "body" as a "sacred container of the soul" and strictly prohibited human dissection. As a result, doctors could not understand the human body structure through direct observation and could only rely on Galen's theory based on the anatomy of animals (such as Barbary macaques)—however, Galen's theory had many errors, such as "blood is produced by the liver and flows back and forth in the blood vessels" and "the human liver has five lobes" (Vesalius, 1543/1998). At the same time, any scientific exploration that challenged the "soul-dominated theory" was regarded as "heresy": in the 14th century, Girolamo Fracastoro, an Italian doctor, proposed the theory that "diseases are transmitted by tiny 'seeds' (microorganisms)". Since this theory contradicted the doctrine that "diseases are caused by soul sins", his works were banned from publication, and he was forced into exile (Ackerknecht, 1982). This suppression led to the long-term stagnation of medieval medical standards, and crude methods such as bloodletting and emesis remained the main treatment methods, resulting in the death of a large number of patients due to the lack of scientific treatment. Folk doctors (mostly women) who mastered herbal knowledge and did not rely on religious rituals were regarded by the church as "heretics colluding with the devil". During the period of 1450-1550, the "witch trials" broke out in Europe, and at least 50,000 women were executed for "witchcraft crimes", among whom more than 80% were folk doctors—they

were accused of "spreading diseases with devil's herbs" and were burned at the stake after being forced to confess through torture (Porter, 1997). This persecution not only claimed the lives of many innocent people but also led to the permanent loss of herbal knowledge passed down from generation to generation (such as some effective formulas for treating infections and pain), further simplifying the medieval medical methods.

In the Middle Ages, mental illnesses (such as depression and schizophrenia) were regarded as the result of "the soul being possessed by the devil", and the treatment methods were extremely cruel. Common measures included: (1) Torture: whipping patients, believing that "pain can drive away the devil"; (2) Fasting and imprisonment: locking patients in dark cells and depriving them of food and water, believing that "physical weakness can weaken the devil's power"; (3) Exorcism rituals: priests using crosses, holy water, and incantations to "exorcise demons", and even pressing the patient's head into water or burning them with red-hot irons (McNeill, 1976). These methods had no therapeutic effect at all; instead, they caused permanent physical and mental harm to patients. It was not until psychiatry became an independent discipline in the 19th century that this misunderstanding was gradually corrected.

III. THE TRANSFORMATION OF THE HEALTH CONCEPT DURING THE RENAISSANCE

From the late 15th century to the 16th century, the Renaissance emerged in Italy and spread to the whole of Europe. The core idea of this period—humanism—advocated "focusing on the value and dignity of humans rather than centering only on God"; at the same time, scientific exploration broke free from the constraints of theology, and anatomy and physiology made breakthrough progress. Together, these two factors promoted the shift of the health concept from "soul-dominated" to "humanistic-scientific integrated", laying the foundation for the "scientization" of the modern holistic health concept. Humanists of the Renaissance (such as Petrarch and Boccaccio) took "man is the measure of all things" (a reconstructed classical proposition by Protagoras) as the core and reestablished the value of the "human body"—it was no longer regarded as "the appendage of the soul" but as "the embodiment of human dignity and vital vitality" (Kristeller, 1961). This concept directly impacted the medieval health cognition of "belittling the body" and promoted people to begin to pay attention to the role of "the natural needs of the body" (such as a reasonable diet, exercise, and sleep) in maintaining health.

Leonardo da Vinci was a typical representative of the combination of humanism and scientific exploration. Through the secret dissection of more than 30 human bodies (covering different ages and genders), he drew detailed anatomical diagrams of bones, muscles, and organs (such as The Skeleton of Man and Anatomy of the Heart), and for the first time accurately presented the details of the human body structure—for example, he discovered that "the function of heart valves is to prevent blood from flowing back", correcting Galen's mistake that "the heart is the organ that produces blood" (Kemp, 1981). In terms of health cognition, Leonardo da Vinci proposed that "health is the harmonious operation of all parts of the body" and advocated that "a reasonable diet (avoiding excessive greasiness), sufficient sleep (7-8 hours a day), and moderate exercise (such as walking and swimming)" are the core of maintaining health, rather than relying on religious confession. This view directly challenged the traditional cognition that "diseases are caused by soul sins" and shifted health maintenance from "religious rituals" to "a lifestyle that conforms to the natural laws of the human body". The core technical support for the transformation of the health concept during the Renaissance was the birth of scientific anatomy—marked by Andreas Vesalius' De Humani Corporis Fabrica. This work not only corrected Galen's thousand-year-old errors but also established the scientific paradigm of "understanding health and diseases through direct observation of the human body structure".

During his tenure at the University of Padua, Vesalius broke the church's ban and systematically carried out human anatomy practices. He found that Galen's theory based on animal anatomy had more than 200 inconsistencies with the actual human body structure, among which the most critical ones included: (1) Interventricular septum: Galen believed that "blood can flow from the right ventricle to the left ventricle through 'invisible pores' on the interventricular septum", but through anatomical observation, Vesalius found that the interventricular septum was "thick and dense with no pores at all", directly negating the physical basis of Galen's "blood purification" theory; (2) Liver lobes: Galen believed that "the human liver has five lobes" (based on dog anatomy), but Vesalius proved that "the human liver usually has only two lobes" (Vesalius, 1543/1998). These discoveries were systematically included in De Humani Corporis Fabrica published in 1543, which became the world's first medical work based on human anatomy and marked the birth of "scientific anatomy".

The publication of De Humani Corporis Fabrica had three revolutionary significances: (1) Cognitive level: It made people realize that "the root cause of diseases may lie in the pathological changes of body organs rather than soul sins", promoting the shift of health attribution from "spiritual inspiration" to "physiological mechanism"; (2) Methodological level: It established the core position of "empirical observation" in medical research, replacing the medieval cognitive method of "relying on authority (Galen) and theology"; (3) Educational level: By the end of the 16th century, more than 50 medical schools in Europe had set up special anatomy rooms, and human anatomy became a core course in medical education, cultivating talents for the subsequent development of physiology and surgery (Ackerknecht, 1982). Following Vesalius, William Harvey, an English doctor, published Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus in 1628. Through anatomical observation and experiments (such as

measuring the amount of blood pumped by the heart), he discovered that "blood flows circularly along the blood vessels driven by the heart", completely overthrowing Galen's theory that "blood is produced by the liver" (Harvey, 1628/1993). This discovery further improved the cognition of "human physiological mechanism" and enabled medical practice to be carried out based on scientific theories such as "blood circulation" and "organ function". For example, doctors began to understand that "cardiovascular diseases are related to vascular blockage and cardiac function decline" rather than "God's punishment".

The transformation of the health concept during the Renaissance was not a complete negation of medieval cognition but a "development through sublation". Its core characteristics can be summarized in three points: The definition of health was no longer bound to "soul salvation" but returned to "the natural needs of humans"—for example, health was regarded as "the normal operation of body organs" and "the adaptation of the body to the natural environment" (such as adjusting diet and clothing according to the seasons), rather than "harmony with God". This secularization freed health management from the constraints of theology and turned it into a field that could be intervened through scientific means. Although the medieval health concept emphasized "the wholeness of the mind and body", its cognition of "body structure" was vague; however, the Renaissance, through breakthroughs in anatomy, realized the combination of "holistic cognition" and "local precision"—for example, doctors not only recognized that "the body is an organic whole" but also could clearly identify through anatomy that "headaches may be related to the contraction of blood vessels in the head and nerve compression" and "heart disease is related to pathological changes in the heart chambers" (Vesalius, 1543/1998), laying the foundation for accurate diagnosis and treatment. Medical practice no longer took "prayer and confession" as the core but formed a model of "humanistic care + scientific means"—for example, when using herbal medicine or surgical treatment, doctors would pay attention to the patient's pain (such as using alcohol to relieve surgical pain) instead of regarding the patient as "a carrier for soul redemption". This model reflected the collaboration between humanism's "respect for human dignity" and science's "pursuit of empirical effects" and was the early form of the modern "bio- psycho" medical model.

IV. THE DIFFERENTIATION OF HEALTH COGNITION DURING THE ENLIGHTENMENT

The Enlightenment in the 17th-18th centuries took "rationalism" as its core ideology and advocated "transforming nature and society with reason". During this period, health cognition was further deepened on the path of "scientization", forming the "mechanical medicine" paradigm centered on "mind-body dualism" and promoting the "municipalization" practice of public health. However, this cognition also fell into the limitations of "mind-body separation" and "materialism", leaving a theoretical gap to be filled for the modern holistic health concept. René Descartes, a French philosopher, proposed "mind-body dualism" in Discourse on the Method published in 1637, which became the core framework of health cognition during the Enlightenment (Descartes, 1637/1998). Descartes argued that "the world is composed of two independent substances: the mind (a thinking substance responsible for consciousness, emotion, and reason) and matter (an extended substance with spatial properties)". Within this framework: The body belongs to "material substance", like a precision machine—bones are the scaffold, muscles are the power source, the heart is the water pump (driving blood flow), blood vessels are the pipelines, and digestive organs are the "processing plants" (converting food into nutrients). All functions of the body can be explained by mechanical principles; The mind belongs to "thinking substance" and exists in the pineal gland of the brain (Descartes believed that the pineal gland is the "connection point between the mind and the body"). It is not governed by mechanical laws and cannot be observed or measured by scientific means. Descartes' theory had a profound impact on the health concept and directly promoted the formation of the "mechanical medicine" paradigm:

Since the body is a machine, diseases are defined as "faults of machine parts", and the core task of medicine is to "repair the faulty parts". For example, "decreased cardiac pumping function" is explained as "wear and tear of the parts of the heart pump", and the treatment direction is "enhancing myocardial contractility through drugs"; "bone fractures" are regarded as "breaks in the bone scaffold", and the treatment method is "surgical reduction and fixation" (such as using splints and plaster) (Porter, 1997). This thinking promoted the rapid development of anatomy, physiology, and surgery—doctors in the 17th century began to systematically study "how the heart pumps blood", "how nerves transmit signals", and "how muscles contract", laying the theoretical foundation for modern organ treatment (such as heart surgery and fracture repair). Since Descartes believed that "the mind is an unobservable thinking substance", the impact of emotions, psychology, and spirituality on health was excluded from the scope of "scientific medicine". For example, medieval doctors would pay attention to "whether the patient's anger leads to an imbalance of yellow bile", while doctors of mechanical medicine during the Enlightenment only focused on "whether the patient's liver function is normal" (such as observing whether the liver has inflammation or pathological changes through anatomy), completely ignoring the role of emotions (Ackerknecht, 1982).

Mind-body dualism led to the division of health management into two independent fields: "body management" and "mind management": (1) Body management: Undertaken by doctors, maintaining the "normal operation of the machine" through drugs, surgery, diet, and exercise; (2) Mind management: Undertaken by priests or philosophers, achieving "mental peace" through prayer, philosophical thinking, and moral cultivation. These two fields did not interfere with each other, forming a fragmented health management model of "treating the head when the head aches and the foot when the foot hurts", which is contrary to the "holism" concept of modern holistic health. Julien Offray de La Mettrie, an 18th-century French doctor, pushed Descartes' "human body

mechanistic view" to the extreme in L'Homme Machine published in 1748 (La Mettrie, 1748/1994). Through empirical observations (such as "beheaded animals still have limb twitches" and "unconscious soldiers will reflexively avoid when injured"), La Mettrie proposed: "Humans are ultimately a machine. The only difference between humans and animals lies in the 'complexity of the machine'—the human brain is more precise, so it has more complex consciousness and reason, but in essence, it still follows mechanical laws." In terms of health cognition, La Mettrie's theory further strengthened the tendency of "materialism": (1) Health was simplified to "the smooth operation of the body machine", which had nothing to do with the mind or spirit; (2) The diagnosis of diseases relied entirely on "the observation of organ structure" (such as discovering lesions through anatomy), and treatment focused on "repairing or replacing faulty organs" (such as removing the diseased appendix and gallbladder).

Although La Mettrie's theory had obvious limitations (such as completely denying the role of the mind), his emphasis on "empirical observation" promoted the transformation of medicine from "philosophical speculation" to "experimental science"—for example, doctors in the 18th century began to study the effect of drugs on organs through animal experiments (such as "the effect of digitalis on cardiac function"), laying the foundation for modern pharmacology (Porter, 1997). If the "human body mechanistic view" provided the "body cognition framework" for Enlightenment medicine, then the birth of pathological anatomy in the 18th century answered the core question of "where diseases are located". The core of this revolution was: through the dissection of the corpses of diseased people, the vague concept of "disease" as "systemic imbalance" was accurately defined as "local pathological changes of specific organs", enabling medical diagnosis and treatment to enter the stage of "precision". Giovanni Battista Morgagni, an Italian anatomist, was the founder of pathological anatomy. Since his youth, Morgagni adhered to the research method of "clinical observation - corpse dissection - correlation between symptoms and lesions": for each deceased patient he treated, he would conduct a corpse dissection, recording the patient's 生前 symptoms (such as chest pain, jaundice, and paralysis) and the organ lesions found in the dissection (such as lung infection, liver cirrhosis, and cerebral hemorrhage). After 50 years of accumulation, he collected more than 700 anatomical cases and published De Sedibus et Causis Morborum per Anatomen Indagatis in 1761, systematically proposing the "theory of disease location" for the first time (Morgagni, 1761/1966): "Every disease has its specific lesion location, and symptoms are the 'signals' sent by the diseased organ to the body—for example, the 'hemiplegia' symptom of stroke patients originates from cerebral vascular hemorrhage or infarction; the 'yellowing of the skin' of jaundice patients originates from bilirubin metabolism disorders caused by liver lesions."

Morgagni's theory completely changed the medical diagnosis model: previously, doctors relied on "bedside observation" (such as feeling the pulse and asking about symptoms) for empirical judgment, like "a blind person touching an elephant"; however, the "theory of disease location" established the corresponding logic of "symptoms - lesions", turning diagnosis from "empirical guesswork" to "empirical reasoning" (Ackerknecht, 1982). For example, if a patient has "chest pain and difficulty breathing", doctors can judge whether the lesion is in the lungs (such as pneumonia), the heart (such as pericarditis), or the thoracic cavity (such as pleural effusion) through dissection or preliminary imaging methods (such as early X-rays), providing a basis for precise treatment.

The popularization of the "theory of disease location" brought mechanical medicine into the stage of "precision": (1) Diagnostic level: Doctors infer the location of lesions through "symptoms"—for example, "frequent urination and painful urination" indicate lesions in the bladder or urethra, and "abdominal pain and vomiting" indicate lesions in the gastrointestinal tract; (2) Treatment level: Based on the location of lesions, treatment shifts from "systemic medication" to "targeted intervention"—for example, using "antibiotics that accumulate in the lungs" for lung infections, and removing the diseased gallbladder through surgery for gallstones (instead of "regulating the whole body's humors"). This precision greatly improved the treatment efficiency and reduced drug side effects, but it also brought hidden costs: patients gradually degenerated from the "subject of health management" to the "object of observation". Doctors paid more attention to "the lesions found in corpse dissection" rather than "the pain felt by the patient during their lifetime"; they attached more importance to "whether the organ structure is normal" rather than "the patient's emotional state and quality of life" (Porter, 1997). For example, for a patient with chronic gastritis, doctors will observe whether there is inflammation or ulcer in the gastric mucosa (lesion) through a gastroscope, but may ignore the impact of the patient's anxiety and long-term staying up late on gastritis—this tendency of "treating the disease but not the person" makes medicine gradually move towards "technologization", and the "humanistic dimension" of health is further marginalized.

V. PUBLIC HEALTH PRACTICE IN THE LATE ENLIGHTENMENT

From the late 18th century to the early 19th century, the Industrial Revolution promoted Europe's transition from an agricultural society to an industrial society. A large number of rural populations flocked to cities, leading to urban overcrowding, poor sanitation, and rampant diseases. This crisis prompted the "rationalism" ideology of the Enlightenment to extend to the public sphere, promoting public health from "scattered measures" to "municipal management", forming a dual health framework of "body structure - external environment", and at the same time giving birth to the prototype of "social medicine". The urban expansion during the Industrial Revolution lacked planning, and the health environment deteriorated extremely. Taking mid-19th- century London, UK as an example: (1) Population surge: Between 1801 and 1851, London's population increased from 1 million to 2.36 million, but the construction of urban infrastructure lagged far behind; (2) Overcrowded housing: Working-class families crowded into narrow

"slums". The population density in the working-class residential areas of Manchester reached 1,000 people per hectare, more than 10 times that of the noble residential areas (Chadwick, 1842); (3) Poor sanitation: There was no unified sewage discharge system, and domestic sewage was directly poured into the streets or the River Thames, causing the river to emit a foul smell and be called "The Big Stink"; (4) Rampant diseases: Infectious diseases such as cholera, typhoid, and smallpox broke out frequently—The first cholera epidemic in the UK from 1831 to 1832 claimed more than 30,000 lives; during the second cholera epidemic from 1848 to 1849, the mortality rate in the East End of London (a working-class gathering area) reached 2.8%, 5 times that of the West End (a wealthy area) (Benedict, 2004).

This crisis transformed the health issue from the private field of "personal hygiene habits" to a public issue of "urban governance capacity", promoting the in-depth integration of Enlightenment rational thinking and public health practice. Based on the Enlightenment concept of "using rational planning to achieve public welfare", governments of European countries began to incorporate public health into "municipal functions" and promote a series of systematic measures: In the early 19th century, the UK and France established "Public Health Boards", which used government funds to hire full-time cleaners and formulated a unified street cleaning system (such as daily cleaning and regular garbage transportation). For example, after the publication of the British Report on the Sanitary Condition of the Labouring Population in 1842, London began to implement "garbage classification and collection" and established garbage treatment plants (instead of random dumping), significantly improving the street sanitation conditions (Chadwick, 1842). In 1858, London suffered from "The Great Stink" caused by the stench of the River Thames, and Parliament was forced to approve the construction of a modern sewer system. Engineer Joseph Bazalgette designed an underground sewage pipe network with a total length of over 1,600 kilometers, which collected domestic sewage from the entire city and transported it to the lower reaches of the River Thames (far from the city's drinking water sources) through pumping stations. After the project was completed in 1865, the cholera incidence rate in London dropped from 616 per 100,000 people in 1849 to 15 per 100,000 people in 1871, becoming a milestone in the history of public health (Benedict, 2004). In 1807, London established the first municipal water supply company, which transported clean water from the upper reaches of the River Thames to residents' homes through pipelines; in the 1850s, chlorination technology was introduced into drinking water treatment, effectively killing pathogenic microorganisms such as Vibrio cholerae and Salmonella typhi in water, further reducing the transmission risk of waterborne infectious diseases (Porter, 1997). These measures turned "safe drinking water" from a "privilege of the wealthy" into a "public good" and became one of the core contents of modern public health.

Urban public health practice made people gradually realize that the occurrence of diseases is not only related to "the internal structure of the body" (such as organ lesions) but also closely related to "the external social environment" (such as living conditions, drinking water quality, and air quality). In the late 18th century, this cognition promoted the health concept to form a dual framework of "body structure - external environment"—health was defined as a balanced state of "the normal operation of the internal structure of the body" and "a suitable external environment", and disease was the result of the breakdown of this balance. Medical geography focuses on "the spatial distribution law of diseases", marks the location of disease occurrences on maps, and analyzes the correlation between the geographical environment (such as climate, terrain, and residential distribution) and diseases. In 1854, British doctor John Snow conducted the famous "cholera map" study: he marked the residence of each cholera patient with a dot on the map of Soho, London, and found that the patients were highly concentrated near the water pump on Broad Street. Based on this, Snow inferred that the drinking water from this pump was contaminated and was the source of cholera transmission, and persuaded the government to close the pump—subsequently, the number of cholera cases in this area decreased rapidly (Snow, 1855). This study not only confirmed the "waterborne transmission" theory but also laid the disciplinary foundation of medical geography, making the "geographical environment" an important consideration in health management.

Environmental medicine further studies "the impact of harmful substances in air, water, and soil on human health". In the late 19th century, scientists found that: sulfur dioxide (SO_2) in industrial waste gas can irritate the respiratory tract, leading to bronchitis and pneumonia; lead (Pb) in drinking water can damage the nervous system and affect children's intellectual development; mold in the living environment can trigger allergic diseases such as asthma (Ackerknecht, 1982). These discoveries deepened the "macro correlation" of "environmental impact on health" to the "micro mechanism", promoting the government to control environmental pollutants through legislation (such as restricting industrial waste gas emissions and standardizing drinking water standards). The practice of the dual health framework requires crossing the boundaries of "medicine, engineering, and government"—doctors are responsible for diagnosing diseases and researching causes, engineers are responsible for designing sanitary facilities (such as sewage pipe networks and water supply systems), and the government is responsible for formulating policies and coordinating resources. This multi-stakeholder collaboration promoted the formation of the prototype of "social medicine", expanding health management from "individual medical care" to "social intervention".

Taking the public health construction in Paris, France in the 19th century as an example:

(1) Government level: Established the "General Directorate of Health" to coordinate the formulation and implementation of public health policies, such as the "living area standard" (at least 8 square meters per household) and "isolation of industrial and residential areas";

(2) Medical level: Doctors participated in urban planning and put forward suggestions on "reserving green space" (such as building the Jardin des Plantes in Paris) to reduce the impact of industrial pollution on residents' health;
(3) Engineering level: Engineers designed "separate pipe networks for rainwater and sewage" and "garbage incineration plants" to solve urban environmental problems;
(4) Educational level: Schools, hospitals, and communities jointly carried out health education, such as popularizing healthy habits of "washing hands frequently and drinking boiled water" through posters and lectures (Porter, 1997).
This collaborative model broke the limitation that "medicine belongs only to hospitals", making health management a "cause involving the whole society" and providing a practical model for the establishment of the modern public health system.

VI. THE CORE LOGIC OF HISTORICAL EVOLUTION AND ENLIGHTENMENTS FOR THE MODERN HOLISTIC HEALTH CONCEPT

From the late Middle Ages to the Enlightenment, the holistic health concept experienced an evolution of "soul-dominated → humanistic-scientific integrated → mind-body dualism → structure-environment dualism". Its core logic can be summarized as "from sacralization to secularization", "from holistic vagueness to local precision", and "from individual care to social intervention". At the same time, this historical process also exposed the limitations of health cognition (such as mind-body separation and materialism), providing key enlightenments for the improvement of the modern holistic health concept. The core driving force of the health concept shifted from "religious belief" to "human needs and scientific rationality": the Middle Ages took "the harmony between the soul and God" as the core of health; the Renaissance took "the value of the human body and natural needs" as the core; the Enlightenment took "rationalism and empirical science" as the core. This shift freed health management from the constraints of theology and turned it into a field that can be intervened through scientific means and guided by social policies.
The cognition of health shifted from "the vague connection between the mind and the body" to "the precise analysis of the body structure and environmental factors": although the Middle Ages emphasized "the wholeness of the mind and body", its cognition of "body structure" and "environmental impact" was vague; the Renaissance realized "precise cognition of body parts" through anatomy; the Enlightenment realized "precise positioning of diseases" and "precise intervention of environmental factors" through pathological anatomy and public health practice. This "precision" is the core symbol of medical progress, but we must also avoid the misunderstanding of "only seeing the parts but not the whole". The scope of health management expanded from "individual medical care" to "the public field of society": medieval medical services were dominated by "monastery charity" with a limited coverage; Renaissance medical care still focused on individuals (such as providing treatment guided by anatomy for nobles); the Enlightenment expanded health management to "all urban residents" through municipal public health and social policies (such as drinking water standards and health education), reflecting the modern concept that "health is a public good".
The "mind-body dualism" of the Enlightenment separated the connection between the body and the mind, but modern medical research has confirmed that psychological factors have a significant impact on health—long-term anxiety and depression can lead to increased blood pressure and decreased immunity, increasing the risk of cardiovascular diseases and diabetes; a positive and optimistic attitude can promote the body to secrete neurotransmitters such as endorphins and dopamine, enhancing the body's repair ability (World Health Organization, 2021). For example, cancer patients who receive good psychological support have an average survival period 20%-30% longer than those with high psychological pressure (Fawzy et al., 1993). This discovery has promoted the shift of modern medicine from the "biomedical model" to the "bio-psycho medical model", making up for the limitations of Enlightenment cognition. Both the "mechanical medicine" of the Enlightenment and the "structure-environment dual framework" ignored "spiritual needs" (such as the pursuit of the meaning of life, the desire for emotional connection, and the sustenance of spiritual beliefs). However, modern studies have shown that spiritual health is an important part of holistic health— people with a clear sense of life meaning, good interpersonal connections, or spiritual sustenance have a higher level of health. For example, the elderly with religious beliefs or a sense of community belonging have a lower incidence of depression, and their lifespan is 3-5 years longer on average than that of the elderly lacking spiritual support (Koenig et al., 2012); patients who have experienced major diseases (such as cancer) are more likely to adhere to treatment and achieve recovery if they can find the meaning of life (Steger et al., 2011). This cognition has promoted the modern holistic health concept to incorporate the "spiritual dimension", forming a complete "bio-psycho-social-spiritual" framework.
Modern health management needs to take into account both "precision medicine" and "humanistic care": on the one hand, it should use scientific means such as anatomy, physiology, and molecular biology to achieve accurate diagnosis and treatment of diseases (such as gene therapy and targeted drugs); on the other hand, it should pay attention to the patient's psychological state, emotional needs, and spiritual pursuit (such as providing psychological counseling for cancer patients and building community social platforms for the elderly), avoiding "treating the disease but not the person". Drawing on the "social intervention" experience of Enlightenment public health, modern health management needs to strengthen the coordination between "individual health" and "public health": improve the social environment through public policies (such as tobacco control legislation and food safety standards), enhance individual health literacy through health education (such as promoting healthy lifestyles), and realize the whole-process

management of "prevention - treatment - rehabilitation" through community medical care (such as family doctor contract services), building a multi-level health security system of "individual - community - society". The medieval concept of "inclusive medical care" enlightens modern society to promote the "fair distribution of medical resources" (such as improving universal medical insurance); the Renaissance "humanism" enlightens us to respect the dignity and independent right of choice of patients (such as "informed consent" in medical decision-making); the Enlightenment "public health practice" enlightens us to strengthen the leading role of the government in health management (such as formulating long-term health strategies). Only by combining historical experience with modern needs can the effective implementation of the holistic health concept be achieved.

VII. CONCLUSIONS

From the late Middle Ages to the Enlightenment, the evolution of the holistic health concept was the result of the mutual promotion of "ideological breakthroughs" and "practical explorations": although the medieval "soul-dominated health concept" was centered on religion, it laid the ideological foundation for "mind-body holism" and "inclusive medical care"; the Renaissance, through the breakthroughs of humanism and anatomy, promoted the shift of health cognition from "sacralization" to "secularization"; driven by rationalism, the Enlightenment realized the "precision" of medical care and the "municipalization" of public health, but also fell into the limitations of "mind-body separation" and "materialism". These historical evolutions not only reveal the development law of the health concept—"from vagueness to precision, from individual to society"—but also clarify the cognitive gaps that need to be filled by the modern holistic health concept.

The mechanistic view of the body and the public health system established by the Enlightenment promoted the scientization of medicine, but they had limitations due to the neglect of the psychological and spiritual dimensions. In the late 20th century, the proposal of the "biopsychosocial model" was precisely a reflection on and transcendence of the historical dual framework (Engel, 1977). Mind-body dualism cannot explain the impact of psychology on health, such as anxiety leading to high blood pressure and a positive attitude improving cancer survival rates (Selye, 1956). The theory of lesion localization is also difficult to deal with systemic diseases, such as diabetes affecting multiple organs and depression involving neurotransmitters and the social environment (McEwen, 1998). Health is not only the integrity of organs but also includes psychological well-being, social adaptation, and life autonomy. For example, an elderly person living alone may have normal organs but is not in good health; a person who stays up late for a long time is in a sub-healthy state (Huber et al., 2011). This cognition has promoted the shift of health management from "treating existing diseases" to "preventing potential diseases", integrating exercise, psychological counseling, and community support.

Spiritual needs (such as the meaning of life, interpersonal relationships, and spiritual beliefs) are closely related to health. People with religious beliefs have a lower depression rate and a longer lifespan; cancer patients who have a sense of meaning are more likely to recover. This echoes Paracelsus' idea that "spirituality is the core link of health", revealing that holistic health needs to include the spiritual dimension (OpenAI, 2023). The modern "bio-psycho-social-spiritual" holistic health framework is precisely the inheritance and transcendence of historical cognition—it not only absorbs the "scientific rationality" of the Renaissance and the Enlightenment (such as precision medicine and public health) but also returns to the core of the medieval "mind-body holism" and supplements the "psychological" and "spiritual" dimensions. The future practice of holistic health needs to find a balance between "scientific precision" and "humanistic care" and form a synergy between "individual intervention" and "social coordination" to truly achieve the ultimate goal of "comprehensive human health".

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