

# The historical origins of the basic concepts of health promotion and education: the role of ancient Greek philosophy and medicine

**YANNIS TOUNTAS**

*Center for Health Services Research Department of Hygiene and Epidemiology, Medical School, University of Athens, Alexandroupoleos 25 str., 115 27 Athens, Greece*  
E-mail: chsr@med.uoa.gr

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## SUMMARY

*Although it is commonly accepted that the basic concepts of 'Health Promotion' have been developed in the last two decades, they have their roots in ancient civilizations and in particular in Greek antiquity. As evident from medical and philosophical documents of the sixth to fourth centuries B.C., the ancient Greeks were the first to break with the supernatural conceptions of health and disease that had so far dominated human societies. The ancient Greeks developed the physiocratic school of thought, realizing that maintaining good health and fighting illness depend on natural causes and that health and disease cannot be dissociated from particular physical and social environments nor from human behavior. In this context, they defined health as a state of dynamic*

*equilibrium between the internal and the external environment, they took under consideration the physical and social determinants of health, they empowered individuals and communities through new democratic and participatory institutions, they gave emphasis in health education and skill development, they recognized the importance of supportive environments and of healthy public policy and they re-oriented medicine toward a more naturalistic and humanistic perspective. The aim of the present study is to highlight such core concepts from these early times that helped establishing the foundations for health promotion and education in the modern era according to the Ottawa Charter.*

*Key words:* health promotion; Ottawa Charter

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## INTRODUCTION

According to the Ottawa Charter, 'Health Promotion' is a health strategy that aims to incorporate skills and community development and to create supportive environments for health, endeavors to build healthy public policy and looks at re-orienting health services (WHO, 1986).

The theoretical framework for health promotion has been provided by Lalende's contribution on health determinants, the development of the new biopsychosocial model for health and disease, which questions the

dominance of the biomedical model by putting emphasis on the role of the environment and of human behavior and on the biological, psychological and social dimensions of both positive and negative health (Scriven, 2005).

Although it is commonly accepted that these basic concepts of health promotion have been developed in the last two decades, they have roots in ancient civilizations and in particular in Greek antiquity. As evident from medical and philosophical documents—especially of the sixth to fourth centuries B.C.—the ancient Greeks were the first to break with the metaphysical/supernatural conceptions of health and

disease that had so far dominated human societies (Edelstein, 1987). The ancient Greeks developed the physiocratic school of thought, realizing that maintaining good health and fighting illness depend on natural causes and that health and disease cannot be dissociated from particular physical and social environments nor from human behavior. On the other hand, according to Porter (1997), ‘the ultimate challenge was to fathom the order of the universe, and because this included the human body viewed as a microcosm of the grand order of nature (macrocosm) such metaphysical speculations had direct medical implications’. Aristotle, a doctor’s son from Stagira in Thrace, questioning Plato’s transcendental ideas, called for the systematic observation of nature (Porter, 1997). Zeller (1980) maintains that the ancient Greeks were able to look at the world, its customs and traditions unhindered by superstitions. The mythical world was replaced by the one created by the power of the independent human intellect, a world which demanded that reality be explained through natural causes. Major philosophical, practical and theoretical issues were raised and answered in a language defined by its clarity—a clarity that came to be the characteristic attribute of the Greek philosophical spirit. Philosophy and science remained a unified whole until the time of Aristotle. They diversified into distinct disciplines during the Hellenistic period, in Alexandria, Antiochia, Pergamos and later Rhodes.

These philosophical speculations about nature became enmeshed in dialogue with medical beliefs about health and sickness and they effected, in both immediate and intermediate ways, the views of ancient Greeks in defining health, in appreciating the need for developing skills and community development, in securing supportive environments, in developing healthy public policy and in re-orienting health services, in other words in serving to a great extent the basic concepts of health promotion according to the Ottawa Charter. This fact is of great importance for the history of ideas as well as for the understanding of the continuity and evolution of human thought (Ackerknecht, 1982).

## EXPLAINING HEALTH AND DISEASE

The ancient Greeks’ apprehension of health and illness was based on the theory of the four

‘fluids’ (blood, phlegm, yellow bile and black bile) that is in its turn premised on the theory of the four elements (fire, earth, water and air) and their four corresponding qualities (heat, dry, humid and cold). All these theories have as a starting point the number 4, which was of great significance for Pythagorean philosophy that dominated the pre-Socratic period (Temkin, 1995).

The Pythagoreans maintained that harmony, perfect equilibrium and perfect balance were the key elements to health. Health is a condition of unique equilibrium of the four bodily fluids (blood, phlegm, yellow bile and black bile) (Temkin, 1995). Illness results when this balance is upset and thus the important thing for maintaining health is to practice a way of life that allows for minimum disturbances to occur in the body. Since balance can easily be disrupted by external factors, efforts are concentrated on regulating the physical and nutritional conditions of the human body.

These theories are also encountered later on in Socratic philosophy. Plato contends that health is a state of being in complete harmony with the ‘universe’, a universe never affected by old age and disease due to the harmonious synthesis of the four fundamental elements (fire, earth, water and air) providing its substance (Tountas, 2000). The Greek word ‘Υγεία’ (hygia) does indeed describe a condition of completeness and contentment. A healthy body is a well-balanced body, one that exists in harmony with cosmic laws and order (Ackerknecht, 1982).

Health theories became more detailed and specific through the work of Hippocrates [It is argued by many scholars that all we know about Hippocrates is legend. The 60 or so works comprising ‘the Corpus’ derived probably from a variety of authors. No one either in antiquity or now has been able to determine which works of the so-called Hippocratic Corpus are by him (Longrigg, 1998).] and his disciples who developed the starting point of medical science. According to this tradition—mainly illustrated in Hippocrates’ work *Air, Waters and Places*—health is defined on the basis of an equilibrium achieved between environmental forces on the one hand (wind, temperature, water, ground and food) and individual habits on the other (diet, alcohol, sexual behavior but also work and leisure) (Pournaropoulos, 1938). The ‘internal’ equilibrium of the four bodily fluids

depends on the 'external' equilibrium between a person and his/her environment.

Pathogenic process, according to Hippocratics, is a result of the overturn of equilibrium and the predominance of one of the four fluids that causes disease through the disruption of the equilibrium of the four fluids. 'Plethora', or the accumulation of humors, is considered accordingly the main process of pathogenesis. In other words, health was equilibrium and illness an upset. *On Regimen* pictured the body as being in perpetual flux: health was a matter of keeping it within bounds. *On the Nature of Man* the body was viewed as stable until illness subverted it.

The physician who comes to attend to a town's population must consider not only the season, the winds, the water the people use or the geography of the place, but also the way people live: if they drink a lot of wine, if they eat well, if they get adequate rest and whether they are hard-working, whether they exercise, how much they eat (Pournaropoulos, 1938). It should be stressed that good diet was crucial to health. The Greek word diet, as Sigerist (1961) notes in his writings, had a much broader meaning than the one we give to it today. Diet meant more than food and drink, *diatetica* (dietetics), the cornerstone of the healing art, involved an entire lifestyle. By diet Greeks meant a man's entire way of living, the relation between sleep and being awake, between exercise and rest and, of course, the choice of food, the quantity consumed and all other factors that constitute a man's life and must be controlled if the individual is to be not only healthy but also strong and beautiful.

Hippocratics posited a natural theory of disease etiology. Rigatos (2003), for example, notes that the treatment of male impotence, frequent among the Skythan people and primarily the wealthy Skythan population, is a case in point. According to prevalent views, male impotence was a god-sent punishment. Hippocrates managed to make certain observations that were connected to horse riding, rheumatism, physical tiredness, weather conditions, ground conditions, diet practices etc. Diseases are also caused by violent incidents such as falls, wounds or fatigue and a third pathogenic factor was to be sought in atmospheric conditions. On the basis of such observations, Hippocratics were able to relieve medicine from the burden of unscientific discourse and superstitions.

## EMPOWERING AND EDUCATING PEOPLE AND COMMUNITIES ON HEALTH ISSUES

A key factor for the achievement of skills and community development, according to Ottawa Charter is the empowerment of people, both in individuals and in communities which is achieved mainly by health education and supportive environments. Although empowerment as a term is not mentioned in ancient Greek philosophy and medicine, the Greek intellect in general is very much centered toward the individual's emancipation from the clutches of ignorance and superstition leading people toward 'self-sufficiency', which as a concept is very close to empowerment.

An ancient Greek philosopher, Protagoras, defined 'self-sufficiency' in ethical terms as a state of being in which one is not dependent on others. Zeller (1980) clarifies that this definition, however, should be clearly distinguished from the more cynical meaning of the word in terms of 'an escape from all needs'. He who is wise, in other words, has to be able to confront his/her own needs. According to the same source, the notion of 'self-sufficiency' was ascribed greater value by Socrates who distinguished ethics from religion and established the autonomy of the former. He also lays emphasis on Aristippos, who drawing on the principle of 'self-sufficiency', advanced a theory and practice of life according to which our single aim is to enjoy life as much as possible—provided however that we are in control of both ourselves and circumstance at all times.

Before Socrates, however, it was the Pythagoreans who place an emphasis on hygiene—the well-known 'Pythagorean way of living'. It is true, according to the same authors, that the Pythagoreans kept some ascetic practices such as absence from consuming meat (most probably later restricted) and absence from consuming broad beans. Thus, life for these people was extremely important and in order for someone to live 'as he should' systematic preparatory education was needed (Eftichiadis, 1998).

The influence of the Pythagorean doctrines in medicine is apparent. Health was a condition of perfect equilibrium, and the Pythagorean way of life meant preserving this equilibrium by practicing moderation and maintaining self-control and calmness. The use of diet, gymnastics and even the use of music were directed to this goal, namely, to restore health when it had been 'upset'.

Naturally, medical science was affected by these theories. Indicative of this is the following segment from a book written by the Hippocratics: 'An intelligent man understands that health is a person's most valuable possession and must know how to help himself with his own thoughts in the case of illness' (Sigerist, 1961). The emergence of 'Health Education' could only occur within the wider context defined by such views.

Sigerist (1961) rightly argues that where views such as these prevailed, a physician's task must have been much easier. He writes that general education and health education were closely related, and the educator, the trainer and the physician were close allies. At all times, success or failure of health education depended not only on the physicians' knowledge and methods but also—and to a large extent—on society's readiness to perceive the importance of their advices.

Higher education evolved from the second half of the fifth century mainly by teachers, the sophists, some of the most prominent of whom are well known to us from Plato's well-known attacks in his Dialogues. The sophists raised the central pedagogic dilemma of whether natural predisposition (nature) of a person or upbringing (education) is the determining factor in the development of the mind and the character. The sophists as wandering teachers went from town to town and collect expensive tuition fees in order to bring young people to their schools for a period of 3–4 years. They initiated them into teachings that often came into an abrupt contrast with the old and respected tradition. Their task was to educate people, namely for statesmanship. During this higher education period, young men were instructed in philosophy and rhetoric, but also mathematics, science and medicine. Higher education was to be as universal as possible. On the other hand, the sophists addressed their older audience through lectures of popular science which were conducted either in a small circle in the house of a wealthy friend or in public centers. They could be characterized as the theoreticians of civilization and the masters in the art of life.

### **RECOGNIZING THE ROLE OF THE PHYSICAL AND SOCIAL ENVIRONMENT**

Hippocratics recognized that some diseases were always present in a given population. They

called these diseases 'endemic', whereas other diseases, which were not always present but which occurred in greater frequency at certain times, they called 'epidemic'. Both terms are widely used today. Rosen (1993) stresses that the treatise *Air, Water and Places* attempts to answer the following question: 'What are the factors of local endemicity?' The introductory paragraphs present and summarize the key factors such as climate, quality of the soil, water, way of life and nutrition. Furthermore, Hippocratic arguments make evident that attention was paid by physicians to the location of an individual's dwelling, the winds to which it was exposed, how near it was to the sea, its proximity to rivers or swamps and the quality of water that was available to the population.

Specifically, Hippocrates' writes on winds and their influence on health: 'Those cities which are faced towards the sunrise are healthier than those which are faced towards the North and than those which are faced towards warm winds even if the distance between them is only one stadium' (Rigatos, 2003). The recognition that climatic and weather changes affect people reflects the professional views of the Greek sailor who depends on the weather and also the Greek farmer whose body is considered a field exposed to the weather conditions.

For all these reasons, Hippocrates' treatise *About Wind, Water and Places* is not only a text of great historical value but also a groundbreaking achievement. According to some commentators, it constitutes his most important contribution to the field of medical science. The book also includes an early account of classical medical geography. In chapters 12–24, a fascinating comparative anthropology of Asia and Europe is presented. Europeans and Asians differ in constitution and character because of the different geographical location of their countries. Not only the climate but also the entire physical environment is different.

Apart from the supportive or pathogenic role of physical environment, Hippocratic writings recognize also the important role of the social and political environment. Ancient Greece was the birthplace of democracy. Democracy brought a rupture for the first time of the heteronomous *status quo* and a motion toward autonomy; a motion that was repeated in Europe from the twelfth to the thirteen century and on, and which was expressed politically with the

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democratic movement and all the democratic institutions that were created. According to Castoriadis (1991), ideal institutions were never created, but Athenians never stopped reforming their laws so as to increase the democratic reality, namely, the possibility of real participation of the people in power, in a state of autonomy.

Autonomy means that the political community provides its laws and that it does so excluding every idea of extra-social source of the laws and institutions, either natural or traditional, or metaphysical. This is the highest 'Kratos', the highest power that exists in a society by giving ourselves, our laws and our institutions under which we live and the government with which we determine our direction.

Society is never just a simple synthesis, a simple summation of persons, because the very persons are being created by society. Therefore, an autonomous society means *ipso facto* autonomous persons. But, autonomous society or autonomous persons mean empowered society and empowered persons. Therefore, the notion of empowerment is not only related with *self-sufficiency* as already mentioned but with the notion of autonomy as well.

But even before the flourishing of democratic regiments in ancient Greece, mainly during the fifth century B.C., social conditions were considered to affect health. Alkmaion, one of the most significant figures of the Kroton medical school of the sixth century B.C. and, for many, the most important medical doctor before Hippocratics, does not hesitate to define health in terms borrowed from the political vocabulary of his time (Tountas, 2000). Health is isonomy, the equality of rights, the total balance of forces 'fluids, dry, bitter and sweet' active in the human body. Isonomy positively affects not only citizens' health but also democracy. On the contrary monarchy, a system of governance based on the rule of one gives birth to disease. It destroys the 'πόλις' (city) by imposing the rule of a singular element on the others, thus destroying isonomy (Sigerist, 1961). Hippocratics later also often refer to the health of the 'πόλεως' (Rigatos, 2003).

The above references exemplify the important role ancient Greeks attributed to the social environment not only in achieving empowerment, autonomy and self-sufficiency but also in affecting citizens' health.

Little is known of Greek medicine before the appearance of written texts in the fifth century B.C. Greece as many other prehistoric countries possessed folk healers, including priest healers and chief tribunes employing divination and drugs. Greek society at large drew heavily upon sacred healing. In Homer, Apollo appears as the 'god of healing'. Various gods and heroes were identified with health and disease, the more predominant being Asclepius, who is portrayed just as a tribal chief and a skilled wound healer since physicians did not seem to be much appreciated by that time. In Homeric times, physicians were of inferior standing and were considered craftsman, not noblemen. In the Odyssey, physicians are placed in a class with other itinerant laborers, and in the Homeric epic, Asklepius is not even recognized as the son of the god Apollo (Homer, 1925). It is only after 700 B.C. with the Asklepieion myth told by Heriod and many others that Asclepius becomes the son of the god Apollo and therefore a semi-god. This upgrading of Asclepius' position signified an upgrading of medicine and at the same time a re-orientation of medical care.

The Edelsteins attribute the rapid ascendancy of Asklepius to his popularity among the poor and lower classes, who saw in Asklepius a god particularly interested in their welfare (Edelstein and Edelstein, 1945). Alone among Greco-Roman gods, Asklepius is described as 'looking after man' and as a lover of all people regardless of station (Aristides, 1973).

Once Asklepius was recognized as the god of medicine, physicians who considered themselves followers of Asklepius had a clear obligation to treat the rich and the poor alike. The donations of the rich were used to subsidize care for the poor in the Asklepieions care units in a way that the contemporary welfare state redistributes income through taxation and social insurance. Cost shifting is evidenced by the many temple inscriptions recording cures of those able to afford traveling from out of town (Edelstein and Edelstein, 1945). The Hippocratic Precepts explicitly encouraged similar cost shifting (Hippocrates, 1923). An inscription at the Athenian temple to Asklepios on the Acropolis reads 'These are the duties of a physician. . . he would be like God savior equally of slaves, of paupers, of rich man, of princes and

to all a brother, such help he would give' (Oliver and Maas, 1939).

Few centuries later the appearance of Asklepius, Hippocratic medicine makes a much more decisive step in refounding medicine upon a quite different basis: a healing system independent of the supernatural and built upon natural philosophy. This separation of medicine from religion points to another distinctive feature of Greek healing: its openness, a quality of Greek intellectual activity, which it owed to political diversity and cultural pluralism (Porter, 1997). But Hippocratic medicine is not only an appeal to reason, and by that virtue a pre-scientific endeavor, but it was also a patient-centered rather than disease-oriented, concerned more with observation and experience than with abstractions.

Therefore, it is not accidental that the well-known Asklepieions, a temple to the god, where Hippocratic medicine was practiced, like in Epidaurus, Kos and Pergamon were located in the countryside, in a valley or on a hill where the climate was healthy and the water was pure, among beautiful and clean surroundings (Pentogalos, 1983). Nor was it accidental that these temples had in close proximity theatres, gymnasiums, pools and other facilities where the holistic approach to health was implemented in practice providing the prerequisites for physical, psychological, social and spiritual well-being. All these innovations comprised a radical re-orientation of health services, which shares a lot of similarities with Ottawa's principles for health promotion.

Asklepieia contributed in the maintenance of social capital and in the growth of the wealth of the country (Corey *et al.*, 1977). During the fourth and the third century the cult of Asclepius and the practice of Hippocratic medicine spread, and by 200 B.C. every large town in Greece had an Asklepieion.

On the other hand, philosophy of ethics of Socrates would almost be inconceivable without the model set by medicine (Raya, 1995). Ethics is the philosophical study of morality, the systematic examination and critical reflection on living morally, designed to illuminate behaviors that should be taken in consideration of ordinary actions, judgments and justifications. Beauchamp and Childress (1979) in their seminal work *Principles of Biomedical Ethics* documented four key ethical principles—autonomy; beneficence, nonmaleficence and

justice; considered to be prima facie or to have equal weight or priority in a particular situation. Autonomy and justice, as already mentioned, were key principles in ancient Greek regiments. In health care, autonomy involves respect for clients' rights to make decisions about and for themselves and their care. Beneficence and non-maleficence are age old requirements of the *Hippocratic Oath* for health professionals to 'do good' and 'do not harm' (Racher, 2007).

Hippocratic doctors should take under consideration the social status of their patients, since their advices and guidance affected the way of life of the patients. They had to indicate those who could afford a wealthy life from the poor and they were also in charge of the health of the slaves (Temkin, 1949).

The fact that the institution of 'public doctor' was functioning in ancient Greece was not accidental. In Athens, these 'public doctors' were elected by the church of the people. The city was paying their salary in the same way it was paying for the drugs.

In order to cover their salary and their expenses, a special kind of public taxation—called 'ατρικόν'—was taken place, thus providing for the care of the poor and wounded warriors. History though provides some testimonies about doctors, such as Menecratis from Syracuse, who was forcing the serious ill to become his slaves if he was able to cure them (Flacelière, 1971). However, this practice seems to be rather the exception than the rule of a dominant moral approach in ancient Greek medicine.

The earliest writer to mention Hippocrates and his theories, Plato in his book *Timaeus* taught that morality was not simply a matter of education; because the mind was influenced by the body, according to Plato, the doctor had a part to play in teaching virtue. *Timaeus* became a highly influential text, linking medicine and philosophy, health and politics, in such a way that reminds the contemporary conception of the sociopolitical determinants of health.

## AFFECTING PRESENT CONCEPTS AND POLICIES

From the seventh to the fourth century B.C., the Greeks embarked on a series of innovations which laid the basis for two millennia of Western thought and achievement in areas including literature, art, architecture, philosophy, politics,

mathematics and medicine. The pioneers of Greek philosophy fashioned the foundational concepts of philosophical and scientific inquiry, and since philosophy and physics were originally interwoven the discursive framework in which they developed allowed for the emergence of core natural science concepts out of which European philosophy and science later evolved.

More specifically, the Hippocratic tradition brought a revolution in the concepts of health and disease and in medical practices. The naturalistic approach pursued by the Hippocratics is not only characterized by its spontaneity, but also by its scientific value and its humanistic approach which have been considered as a precious heritage. Defining health as a state of balance between internal and external environment revolutionized medical thought.

Sigerist (1961) comments that in western civilization too, health is considered as a state of perfect balance. The difference in relation to the ancient Greeks has to do more with what constitutes the 'elements' of the human body. The author adds: 'Equilibrium is impossible in a vacuum; its achievement requires a material substratum. Twenty five hundred years of human experience have enhanced our knowledge of what constitutes a human body. We know today that the human organism is made of cells and intercellular substances that are kept alive and function because of chemical and physical forces in a state of dynamic equilibrium defined by the internal and external environment.' Health, as a state of perfect balance or dynamic equilibrium between external and internal forces, is also a core concept in health promotion, since health determinants acting as external forces consist one of the main areas of health promotion interventions.

Of great importance to the development of modern health science was also the naturalistic foundations of ancient Greek medicine. Plato's pupil Aristotle, a doctor's son, also put forward hugely influential views on the constitution of life and health. Questioning Plato's metaphysical ideas, Aristotle called for the systematic observation of nature. His discussions of physiology long intrigue doctors and philosophers alike; and 2000 years later, his teleological doctrines shaped the physiology of William Harvey (Porter, 1997).

Thus, health promotion and education placing an emphasis on correct diet and physical exercise were early accomplishments of the ancient

Greeks. It is also of great value that health education, based on a holistic perception of health, was closely related to the physical and social environment, establishing in this way the foundations for health promotion in the modern era.

The importance of this innovative ideas was expressed by Castiglioni who contends that *About Wind, Water and Places* constitutes an exposition of highly original ideas, the breadth and significance of which could only be recently (in the last few decades) appreciated (Rigatos, 2003). Furthermore, many researchers maintain that the treatise constitutes the first recorded systematic effort to uncover the causal relationship between environmental factors and disease. For more than 2000 years, this was the basic epidemiological text, which provided the theoretical underpinning for understanding endemic and epidemic diseases. No fundamental change occurred until the late nineteenth century when new sciences, such as bacteriology and immunology, emerged.

These ideas about the environmental determinants of health are modern ideas. We know well that humans are born with hereditary raw materials but what is made of these genetic characteristics largely depends on environmental factors and that health can be promoted in supportive environments. But supportive environment means more than the physical determinants of health. The social environment was considered too among the most important health determinants. The institution of democracy and the state's responsibility for justice and education, despite the institution of slavery and the well-known discrimination against women, reflected a supportive social environment for health and the promotion of healthy attitudes and behaviors. In our times, the social and political institutions fostering participation are considered vital pathways for the empowerment of the individual and the community on the road of promoting the population health.

Through this social and philosophical environment, medical practice was re-oriented and a search for more human, fair and efficient health services emerged as unavoidable. The institution of 'public doctors' that were paid by the state to care for the poor, the humanitarian approach of the Hippocratic oath toward the patient and the development of patient friendly and easily accessible health units are within the basic values and goals for any contemporary health system which strives to restore a more

humanitarian and equalitarian spirit in contemporary medicine in order to satisfy both patients greater expectations and the need of a new paradigm in health care.

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