The development of Greek anatomy / by Ludwig Edelstein.

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Edelstein, Ludwig, 1902-1965.

Publication/Creation

1935

Persistent URL

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THE DEVELOPMENT OF GREEK ANATOMY

BY

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[Reprinted from *Bulletin of the Institute of the History of Medicine*, Vol. III, No. 4, April, 1935.]

THE DEVELOPMENT OF GREEK ANATOMY[1]

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The dissection of the human body is one of the great scientific contributions of the Greeks. As far as we can tell, no one had ever before ventured to perform an anatomy.[2] My purpose is to explain why, in Greece, such dissections could be exercised. But first, I have to show what the significance of dissection is, in its relation to medicine. On this the solution of the problem depends.

Modern physicians who consider the explanation and treatment of diseases impossible without an understanding of the structure of the human body, agree that dissection is the only means whereby the necessary knowledge may be acquired. And every medical student learns the facts as he himself dissects. However, we must not take for granted that the same attitude existed in antiquity.

In ancient medicine, too, there is an association between the knowledge of the structure of the human body and the treatment of diseases. In the 5th and 4th centuries B. C., when the so-called Hippocratic writings were assembled, it seems that certain humors circulating through the body are responsible for illnesses. And even

[1] This paper was read in a seminar course on the history of anatomy. As regards a detailed argumentation, I refer to "Die Geschichte der Sektion in der Antike," *Quellen und Studien zur Geschichte der Naturwissenschaften und der Medizin*, III (Berlin, 1932), pp. 100-156; see also note 22.

[2] Anatomy in the modern sense of the word means the knowledge of the structure of the human body. But the word itself, derived from the Greek ἀνατέμνειν, only means dissection, signifying a method of research rather than a degree of knowledge.

now a few authors consider it advantageous to know how the cavities of the body through which these humors flow are formed. One source says, " I hold that it is also necessary to know which diseased states arise from powers and which from structures. What I mean is, roughly, that a " power " is an intensity and strength of the humors, while " structures " are the conformations to be found in the human body." [3] And another book at least distinguishes between the diseases which " have their seat where they can be seen " and other diseases which have " a seat where they cannot be perceived." [4] The latter are " those which are determined to the bones or the cavities," and " their obscurity however does not mean that they are our masters, but as far as is possible they have been mastered, a possibility limited only by the capacity of the sick to be examined and of researchers to conduct research." [5] And another author even says, " The nature of the body is the beginning of medical study." [6] However, at this time such statements occur only sporadically.

But then, since the beginning of the 3rd century B. C., the dogmatic physicians who think it possible to explain diseases by theories, emphasize that in internal diseases the organs are the origin of illnesses, and that it is impossible to discover the organs without studying the human body. And " besides, as pains and various other disorders, attack the internal parts, they believe no person can apply proper remedies to those parts of which he is ignorant." [7] The empiricists who went no further than experience allows, agree with the dogmatists in that physicians should know the human structure, since experience teaches that the treatment of diseases depends upon the organs.[8] Only the last Greek medical school founded in the 1st century A. D., the methodic school, again repudiates the necessity of this knowledge in accordance with its refutation of

[3] *π. ἀρχαίης ἰητρικῆς*, Ch. XXII, Hippocrates, translated by W. H. S. Jones (Loeb Classical Library), I, p. 57.

[4] *π. τέχνης*, Ch. IX, Hippocrates, *loc. cit.*, II, p. 207.

[5] *π. τέχνης*, Ch. X; XI, Hippocrates, *loc. cit.*, II, pp. 207; 209.

[6] *π. τόπων τῶν κατ' ἄνθρωπον*, Ch. II, *Oeuvres complètes d'Hippocrate*, par E. Littré (Paris, 1839), VI, p. 278.

[7] *Celsus de medicina*, translated by James Greive (London, 1756), p. 7.

[8] Celsus, *loc. cit.*, pp. 11, 12.

every explanation, every statement concerning the connection between two facts. However, a few later methodists study the body because a knowledge of the organs indicates greater erudition, even if such a knowledge is not useful for medical practice.

From the 3rd century B. C., then, the Greek and Roman physicians in general hold a knowledge of the human body to be important. Before that time, at least a few physicians study the human body. But in spite of that, the dissection of human bodies is never the only method of study. In the 5th and 4th centuries B. C., the physicians dissect dead and living animals, and make their assertions by inference from the bodies of animals to those of men.[9] And the nature of the organs is determined by other analogies. Thus it is said, "Some (of the conformations which are found in the human body) are hollow, tapering from wide to narrow; some are expanded, some hard and round, some broad and suspended, some stretched, some long, some close in texture, some loose in texture and fleshy, some spongy and porous. Now which structure is best adapted to draw and attract to itself fluid from the rest of the body, the hollow and expanded, the hard and round, or the hollow and tapering? I take it that the best adapted is the broad hollow that tapers. One should learn this thoroughly from unenclosed objects that can be seen. For example, if you open the mouth wide you will draw in no fluid; but if you protrude and contract it, compressing the lips, and then insert a tube, you can easily draw up any liquid you wish. Again, cupping instruments, which are broad and tapering, are so constructed on purpose to draw and attract blood from the flesh. There are many other instruments of a similar nature. Of the parts within the human frame, the bladder, the head, and the womb are of this structure."[10] In this case the physicians make inferences from organs which can be seen and from familiar instruments to organs which cannot be observed. A knowledge of the internal organs is also acquired by experience: "Medicine, being prevented, in cases of empyema, and of diseased liver, kidneys, and the cavities generally, from seeing with the sight with which all men see everything most perfectly, has nevertheless dis-

[9] E. g., π. καρδίης, Ch. 2, Hippocrate, par E. Littré, *loc. cit.*, IX, p. 80.
[10] π. ἀρχαίης ἰητρικῆς, Ch. 22, Hippocrates, ed. Jones, *loc. cit.*, I, pp. 57-58.

covered other means to help it. There is clearness or roughness of the voice, rapidity or slowness of respiration, and for the customary discharges the ways through which they severally pass, some times smell, sometimes colour, sometimes thinness or thickness furnishing medicine with the means of inferring, what condition these symptoms indicate, what symptoms mean that a part is already affected, and what that a part may hereafter be affected. When this information is not afforded, and nature herself will yield nothing of her own accord, medicine has found means of compulsion, whereby nature is constrained, without being harmed, to give up her secrets." [11] These, in the beginning, are the analogical methods of learning.

The practice of anatomy as the dissection of the human body itself begins only in Alexandria in the early part of the 3rd century B. C., when the dogmatists realize the whole importance of this knowledge of the human body. They say, that " it is necessary to dissect dead bodies, and examine their viscera and intestines, and (therefore) that Herophilos and Erasistratos had taken by far the best method for attaining that knowledge, who procured criminals out of prison, by royal permission, and dissecting them alive, contemplated, while they were even breathing, the parts which nature had before concealed; considering their position, colour, figure, size, order, hardness, softness, smoothness and asperity, also the processes and depressions of each, or what is inserted into, or received by another part." [12] Dissection, both of living and of dead human beings, is practised by the dogmatists, the former seeming the most expedient practice.

But at once the opposition arises. Although the empiricists admit that a knowledge of the human body is necessary, they refute dissections, either of dead or living human bodies. It is not only useless but cruel, to cut open living men, especially " if it be considered, that some of those things which are sought after with so much barbarity, cannot be known at all, and others may be known without any cruelty . . . that the abdomen indeed may be opened, while a man breathes; but as soon as the knife has reached the praecordia

[11] π. τέχνης, Ch. XIII, Hippocrates, ed. Jones, *loc. cit.*, II, pp. 213-215.
[12] Celsus, *loc. cit.*, p. 7.

. . . the man immediately expires and thus the praecordia and all the viscera never come into the view of the butchering physician until the man is dead." [13] The empiricists say further, " If there be anything which can be observed in a person, that yet breathes, chance often throws it in the way of such as practise the healing art; for that sometimes a gladiator on the stage, a soldier in the field, or a traveller beset by robbers, is so wounded, that some internal part, different in different people, may be exposed to view; and thus a prudent physician finds their situation, position, order, figure, and the other particulars he wants to know, not perpetrating murder, but attempting to give health; and learns that by compassion, which others had discovered by horrid cruelty. That for these reasons it is not necessary to lacerate even dead bodies . . . the dressing of wounds shows all that can be discovered in the living." [14] The empiricists believe, then, that fortuitous knowledge is sufficient, and frankly call it an " anatomy by chance." [15]

The dogmatists alone continue to practise anatomy as the dissection of human bodies. They do so until the 1st century A. D. From that time on, human dissection becomes impossible even for them, though they still consider it essential. During the 2nd century A. D. Alexandria is the only place, now, in which such dissections can be performed: " Make it your earnest business, then, not only to learn exactly from the book the appearance of each of the bones, but to become yourself by the use of your own eyes an eager first-hand observer of human osteology. At Alexandria, this is very easy, since the physicians in that country accompany the instruction they give to their students with opportunities for personal inspection (autopsies). Hence you must try to get to Alexandria for this reason alone, if for no other." [16] But in general, it is now said, " Listen, then, and look at this slave, and you shall commit to memory first what is superficially visible. Next, I will try to teach you what the interior parts are to be called, by dissecting some

[13] Celsus, *loc. cit.*, pp. 11, 12.

[14] Celsus, *loc. cit.*, p. 12.

[15] Galen, ed. Kühn, XIX, p. 357, fr. 67, Deichgräber, *Die griechische Empirikerschule* (Berlin, 1930).

[16] Galen, ἀνατομικαὶ ἐγχειρήσεις, I, Ch. II, translated by A. J. Brock, *Greek Medicine* (London), p. 161.

animal which is most like a human being. For, even if they are not alike in every respect, still there is nothing to prevent one from demonstrating at least the essentials of every part. In the old days, these matters were demonstrated in a more noble fashion, on the human subject." [17]

The consequence of these facts, of course, is that anatomy is never the only method of acquiring the knowledge of the human body in ancient times. In the 5th and 4th centuries B. C., pupils learn by dissecting animals, or by other analogies and by experiences. The disciples of the dogmatic school alone then learn by dissecting human beings, either dead or living, as long as it is possible. Later, for them too, anatomy by chance and dissection of animals again replace the dissection of men: "If you cannot manage (to go to Alexandria and to learn on the human body itself), still it is not impossible to obtain a view of human bones. Personally I have very often had a chance to do this where tombs or monuments have become broken up. On one occasion a river, having risen to the level of a grave which had been carelessly constructed a few months previously, easily disintegrated this; then by the force of its current it swept right over the dead man's body, of which the flesh had already putrefied, while the bones were still closely attached to one another. This is carried away downstream for the distance of a league, till, coming to a lakelike stretch with sloping banks, it here deposited the corpse. And here the latter lay ready for inspection, just as though prepared by a doctor for his pupils' lesson. Once also I examined the skeleton of a robber, lying on a mountain-side a short distance from the road. This man had been killed by some traveller whom he had attacked, but who had been too quick for him. None of the inhabitants of the district would bury him; but in their detestation of him they were delighted when his body was eaten by birds of prey; the latter, in fact, devoured the flesh in two days and left the skeleton ready, as it were, for anyone who cared to enjoy an anatomical demonstration. As regards yourself, then, even if you do not have the luck to see anything like this, still you can dissect an ape, and learn each of the bones from it, by carefully re-

[17] Rufus, *π. ὀνομασίας τῶν τοῦ ἀνθρώπου μορίων*, introduction in Brock, *loc. cit.*, p. 126.

moving the flesh." [18] Thus the later dogmatists seek for knowledge. The pupils of the empiricists, as always, round out their studies by chance, by healing, and even by reading books.[19]

To sum up: although there is a connection between the knowledge of the human body and medicine, dissection of human bodies is not the only means of studying and acquiring sufficient knowledge. This method is discovered only in the beginning of the 3rd century B. C., and without having been generally recognized, it is exercised only till the 1st century A. D. And now the question comes up, why, at a certain time, dissection of human beings is developed, why it becomes at all a possibility and a necessity in Greece.

The Greeks, like all ancient people, have a fear of dead bodies. All acts of violence upon a body are held as odious. To care for the burial of every corpse is a duty; no obligation of one relative to another is of greater import. For the dead may not find rest in the realm of death until their bodies are given proper burial. They may take vengeance on the relatives who neglect their obligations to their dead. These magic beliefs always remain in force. The idea that the dead can punish the living for every slightest disrespect is prevalent throughout antiquity. Considering these theories, it seems impossible that the Greeks can ever have done any dissecting. But they do dissect. It is the scholars who have a spirit of inquiry and who perform the dissections. Their ideas can be quite unrelated to the opinions of the ordinary layman. The opposition to dissection, then, may have prevented the scholars from having easy access to cadavers, but it would have been possible to overcome such opposition at that time as it was in the Renaissance.

But in the 6th and 5th centuries B. C., the beliefs of scholars and laymen are still identical. Even philosophers of this period take for granted that after death the human body is capable of sensation.[20] It is significant of a great advancement of thought that no differentiation is made between burial in the earth of one's own native country and in that of a foreign country; as it is said, " The road

[18] Galen, *ἀνατομικαὶ ἐγχειρήσεις*, I, Ch. II, in Brock, *loc. cit.*, pp. 161-162.

[19] Galen, ed. Kühn, XIII, pp. 607-609, fr. 69-70, Deichgräber, *loc. cit.*

[20] Democritus, 55 A 117; 160-161; 109. Parmenides, 18 A 46, cf. B 13, in Hermann Diels, *Die Fragmente der Vorsokratiker* (Berlin, 1922), 4th ed.

to the lower world is as long from one place as from another." [21] The paradox of Heraclitus that the corpse has to be thrown out with even less hesitation than dung, is based on a religious belief of impurity rather than on a rational theory, and is, above all, an isolated one.[22]

But then in the 4th century B. C., the Platonic philosophy evolves a decisive general change of thought among the scholars. In one of the Platonic dialogues, Socrates says, after having discussed the immortality of souls, and having been asked by Crito how he wished to be buried, " However you please, if you can catch me and I do not get away from you." And he laughed gently, and looking toward us, said, " I cannot persuade Crito, my friends, that the Socrates who is now conversing and arranging the details of his argument is really I; he thinks I am the one whom he will presently see as a corpse, and he asked how to bury me. And though I have been saying at great length that after I drink the poison I shall no longer be with you, but shall go away to the joys of the blessed you know of, he seems to think that was idle talk, uttered to encourage you and myself. . . . I shall not remain when I die, but shall go away, so that Crito may bear it more easily, and may not be troubled when he sees my body being burnt or buried, or think I am undergoing terrible treatment, and may not say at the funeral that he is laying out Socrates, or following him to the grave, or burying him." [23] So the fear of death and of dead bodies is clearly overcome on a rational basis. Plato, who distinguishes between the world of ideas and the world of reality, between the soul of man and the body of man, recognizes the fact that " the soul is wholly superior to the body, and that in actual life what makes each of us to be what he is is nothing else than the soul, while the body is a semblance which attends on each of us, it being well said that the bodily corpses are images of the dead, but that which is the real self of each of us, and which we term the immortal soul, departs to the

[21] Anaxagoras, 46 A 34 a, in Diels, *loc. cit.*

[22] Heraklitus, 12 B 96; cf. B 98, in Diels, *loc. cit.* R. Harder reminded me of this fragment, which I did not consider in my first paper.

[23] Phaidon, 115 c-e, Plato, translated by H. N. Fowler (Loeb Classical Library), I, pp. 393-395.

presence of other gods." [24] Man and his body are never identical, either during life or after death. The conception of the true reality of the soul makes the body unreal and negligible.

Aristotle follows these Platonic theories. A new general attitude towards life and death is now created. The Hellenistic physicians, who first exercised dissections of human beings, the dogmatists, are disciples of these philosophers. They are scholars, and are closely connected with the philosophical thinking. They too, therefore, have no delusions as to the ability of the dead body to feel, to take vengeance, to punish those still alive. It is only a thing of flesh and bones. Besides, the whole Hellenistic philosophy holds the same views. What Epicurus says, " The wise man will not think about burial " [25] is valid with all of them. Physicians and philosophers of this period maintain the same belief that prompts Vesalius to adopt this motto for one of the figures in his *Fabrica Corporis Humani* as an expression of his attitude towards anatomy: Vivitur ingenio, caetera mortis erunt — it is his genius that yet walks the earth; all else of him may go down into silence.[26] They, therefore, are, like Vesalius, able to dissect human beings. Before that time, such a thing would have been impossible.

There remains, of course, a certain revulsion against such studies. The empiricists inveigh at some length against the cruelty of human dissection. It is not only cruel, it is " shocking to the sight " too, as they say.[27] And it is likely that the dogmatists have had the same feeling. But at the same time in which the fear of dead human bodies is conquered, the revulsion against shocking inquiries is, on the whole, overcome by the aim of intellectual perception: " We proceed to treat of animals, without omitting, to the best of our ability, any member of the kingdom, however ignoble. For if some have no graces to charm the sense, yet even these, by disclosing to intellectual perception the artistic spirit that designed them, give immense pleasure to all who can trace links of causation, and are inclined to philosophy. . . . We therefore must not recoil with childish aver-

[24] *Laws,* XII, 959 a-b, Plato, translated by Burry, *loc. cit.*, X, p. 533.
[25] Epicurus, fr. 578, in Usener, *Epicurea* (Leipzig, 1887).
[26] See Singer, *The Evolution of Anatomy* (London, 1925), VIII and fig. 103.
[27] Celsus, *loc. cit.*, p. 12.

sion from the examination of the humbler animals. Every realm of nature is marvelous: and as Heraclitus, when the strangers who came to visit him found him warming himself at the furnace in the kitchen and hesitated to go in, is reported to have bidden them not to be afraid to enter, as even in that kitchen divinities were present, so we should venture on the study of every kind of animal without distaste; for each and all will reveal to us something natural and something beautiful . . . if any person thinks the examination of the rest of the animal kingdom an unworthy task, he must hold in like disesteem the study of man. For no one can look at the primordia of the human frame — blood, flesh, bones, vessels and the like — without much repugnance." [28] The physicians have at least the same interest in the subject as the philosophers. They are motivated by a desire to understand and aid in the conquering of illness. They too have to overcome their repulsion for dissection.

The Greek and Roman physicians do dissect as long as these thoughts are alive. But from the 1st century B. C., human dissections cease to be performed. There is another change of thinking. The Romans, who are the dominating factor of that era, respect the dead, and are superstitious beyond all other people. The Roman law highly respects and assiduously protects the dead body. Philosophy itself becomes suffused with superstition. There is no longer an absolute freedom of inquiry. The few physicians who still want to dissect, are not able to do it. Only in Alexandria is teaching with a skeleton still possible during the 2nd century B. C. There, perhaps, the old dogmatic traditions are still stronger than anywhere else. Later, in every case, dissection becomes an impossibility throughout the whole Roman Empire. And physicians themselves renounce it. The attitude of scholars and laymen is again the same as it was before the development which led to dissection began.

Only the Greek physicians of a certain period can dissect. There remains a last question — why do they consider it imperative to dissect human beings? There are many other methods of acquiring the necessary information. Even at this time, when the dissection of human beings becomes an authorized procedure, a great many

[28] π. ζώων μορίων, I 5, 645 a 6-30. In *The Works of Aristotle*, edited by Smith and Ross, V (Oxford, 1912).

physicians feel that the old methods are sufficient. And above all, as far as we know, until the 3rd century B. C., no one has ever wanted to dissect human bodies. Everyone is satisfied with the studies based on animal dissection or on other analogies. Why does it suddenly seem so necessary for the physicians to make their inquiries directly on the subject of their interest? And why do they perform vivisections? That can be explained through the history of analogical thinking in antiquity.

In the 5th and 4th centuries B. C., the whole inquiry into nature is based upon the belief that there exists an all-embracing uniformity in nature. It is thought possible to explain anything by referring it to something else. For instance, one can explain the changes in the heavens according to human behavior, or the changes in the earth according to the growth of a plant. For heaven and man, earth and plant, are identical if one takes into consideration the last principles of genesis. A philosopher of this time, therefore, can say: "earth's sweat, the sea." [29] The same law is always valid. It is therefore possible to compare man and animals without going wrong. The inferences based upon analogies evolve a knowledge which is absolutely unchallengeable. And so the physicians need inquiries into the human body itself as little as do the philosophers. In these centuries, animal dissection and other analogies continue to be adequate.

But the faith in analogy is gradually done away with. Even in the 4th century B. C., Aristotle attacks the analogical statements. He considers them gross exaggerations: "It is equally absurd to suppose that anything has been explained by calling the sea 'the sweat of the earth,' like Empedocles. Metaphors are poetical and so that expression of his may satisfy the requirements of a poem, but as a scientific theory it is unsatisfactory." [30] Aristotle himself distinguishes between *analogous* and *similar:* "All animals have a part analogous to the chest in man, but not similar to his; for the

[29] Fr. 55, in *The Fragments of Empedocles*, translated by W. E. Leonard (Chicago, 1908).

[30] μετεωρολογικά, II 3, 357 a 24-28. In *The Works of Aristotle, loc. cit.*, III (Oxford, 1931).

chest of man is broad, but that of all other animals is narrow." [31] And he makes no inferences from the organs of animals to those of human beings, except in comparing their functions. Analogies become an uncertain basis for study. Comparisons between men and animals cannot justifiedly be unrestricted.

Theophrastus, a disciple of Aristotle, goes still further. In his book on botany he says, " It is waste of time to take great pains to make comparisons where that is impossible, and in so doing, we may lose sight also of our proper subject of inquiry." [32] The consequence is that great scientific discoveries go unrecognized because the scholars have no longer the courage to compare, for instance, plants and animals. The bisexual nature of plants is recognized, but Theophrastus is now afraid to formulate his observation as a law of nature.

Theophrastus is aware that the way of studying the internal parts of plants is similar to that of the study of animals by dissection.[33] The Alexandrian physicians, who are the first to dissect, study in the Aristotelian school. Theophrastus, who, above all other philosophers, is cautious in making analogical inferences, teaches Erasistratus, one of the first and greatest anatomists of antiquity. Like Theophrastus and contemporary philosophers, the physicians, I imagine, admit now that inferences by analogy are not sufficiently dependable. They are no longer satisfied with analogies between animals and men, and are therefore compelled to dissect human beings rather than animals, to study the subject of their inquiries itself. It is the same time in which the fear of human corpses is dispelled. Physicians now may dissect unreservedly.

But the dogmatists consider vivisections to be far more instructive than dissections of dead bodies. They declare, " It is by no means cruel, as most people represent it, by the tortures of a few guilty, to search after remedies for the whole innocent race of mankind in all ages." [34] Also it is not necessary to make frequent

[31] π. ζώων ἱστορίας, II 1, 497 b 36-38. In *The Works of Aristotle*, *loc. cit.*, IV (Oxford, 1910).

[32] π. φυτῶν ἱστορίας, I 1, 4, Theophrastus, translated by A. Hort (Loeb Classical Library), I, p. 7.

[33] Theophrastus, *loc. cit.*

[34] Celsus, *loc. cit.*, p. 8.

vivisections, though it is at times compulsory. And the empiricists think vivisections to be cruel and useless, only because it is impossible to reach the ultimate aim of such inquires. For they, too, believe, " that nothing can be more ridiculous, than to imagine anything to be the same in a dying man, nay one already dead, as it is in a living person. . . . Most things are different in dead bodies." [35] Why do the Greek physicians believe this? It is, of course, an observation of the fact that certain definite and obvious changes take place in a dead body, an observation which anyone is able to make. In spite of that, in the 5th and 4th centuries B. C., such observations, if they are made, are never seriously taken into consideration, or given anything like their real significance. Even dissections of dead and living animals have an equal value. The philosophers, who take for granted that the dead body is capable of sensation, also make no distinction between the visible aspects of dead and living bodies.

But then, in the 4th century B. C., Aristotle, in accordance with Plato, advances a new theory. He says, " Does, then, configuration and colour constitute the essence of the various animals and of their several parts? For if so, what Democritus says will be strictly correct — he says that it is evident to everyone what form it is that makes the man, seeing that he is recognizable by his shape and colour. And yet a dead body has exactly the configuration as a living one; but for all that it is not a man. So also no hand of bronze or wood or constituted in any but the appropriate way can possibly be a hand in more than name . . . precisely in the same way no part of a dead body, such I mean as its eye or its hand, is really an eye or a hand . . . it is plain, then, that the teaching of the old physiologists is inadequate, and that the true method is to state what the definitive characters are that distinguish the animal as a whole . . . this something that constitutes the form of the living being is the soul . . . when the soul departs, what is left is no longer a living animal, and none of the parts remain what they were before, excepting in mere configuration, like the animals that in the fable are turned to stone." [36] It is the new conception of the value of the soul which

[35] Celsus, *loc. cit.*, pp. 11, 12.

[36] *π. ζώων μορίων*, I 1, 640 b 30-641 a 22. In *The Works of Aristotle, loc. cit.*

destroys the fear of dead bodies. It is this same attitude which brings about vivisections, and makes them more valuable than dissection of dead bodies. Physicians now realize the importance of these differences, which they have observed before, between dead and living bodies. The dissection of cadavers can only teach the configuration and position of organs, while vivisection can teach the nature of the internal parts and the causes of life. They therefore want to dissect living beings. The advantages of such studies they believe are sufficient excuse for their cruelty.

To conclude: anatomy as the dissection of the human body is performed in Greece and Rome only from the 3rd century B. C. until the 1st century A. D. At this time the magic and religious fear of dead bodies is overcome by the philosophical thinking. Inferences by analogy are replaced by a more scientific method, by the study of the subject itself. At this moment, therefore, it becomes possible and necessary to dissect human beings, and the Greek physicians venture to undertake it.