

## THE ROADS IN HUMAN KNOWLEDGE

### THE FIRST ROAD: THE ROAD FROM THE SENSES INTO REASON

The things that can be seen, heard, and learned are what I prize the most. (Heraclitus, DK 55)

The order noted in the fragment is from the senses into reason. There are at least two reasons why these two senses (sight and hearing) are singled out. One is that these senses are more spiritual than the other senses. A sign of this is that we speak of the beautiful only in regard to the objects of these two senses. A second reason is that we come to know by discovery and learning from others. But the sense of sight is the sense of discovery par excellence and the sense of hearing is the sense of learning from others.

Eyes are more accurate {more certain] witnesses than ears.  
(Heraclitus, DK 101A)

The eyes are more clear and certain than the ears (Hence, the saying that seeing is believing.) The word *witness* is also important.

It is not possible to draw God near within easy reach of our eyes or to take hold of him with our hands which is the broadest road of persuasion that leads into the mind of man. (Empedocles, DK 133)

The road from the senses into reason is the basic road that leads into our reason. It is the first road underlying our knowledge.

Empedocles singles out two senses: the sense of sight and the sense of touch. The sense of sight is the most clear of the senses and by it we can also know things at a great distance. The sense of touch is the most certain of the senses. Hence, the doubting Thomas wanted to put his fingers or hand into the wounds of Christ. Here we see the dichotomy which Aristotle was to point out in the life of reason as well. Certitude and clarity do not go together. We are more sure in our confused knowledge than when we try to know distinctly.

The sense of sight and the sense of touch are the only senses which know the shape of bodies. The shape of bodies is very important in distinguishing them and knowing what they are. And since the *witness* of two or three is sufficient,

we are sure that the bodies around us have different shapes. Max Born in his book on the theory of relativity also singles out these two senses.

Things that appear are a sight of the unknown [unseen].  
(Anaxagoras, DK 21A)

Although all of man's knowledge is based on his senses, he is not limited to knowing only what can be sensed. But other things can be known to some extent by their likeness to what we can sense.

## OBJECTIONS TO THE ROAD FROM THE SENSES

...And the goddess received me kindly, and took my right hand in hers, and thus she spoke and addressed me: 'Young man, companion of immortal charioteers, who comest by the help of the steeds which bring thee to our dwelling: welcome! It is not bad fate, but law and right that has rushed you forward to go on this road which is far from the beaten path of men. There is need for you to learn all things, both the unmoved heart of well-rounded truth and the opinions of mortals in which there is no true belief. Nevertheless you shall learn these things also, how one should truly go through all things testing everything that seems to be.'  
(Parmenides, DK 1)

Come, I will tell, and you pay attention to my word when you have heard it, the only road that can be thought of: the one that it is and that it is impossible for it not to be is the road of belief for it follows truth; the other that it is not and that it must not be - this I tell you is a wholly unbelievable road. For you could neither know what is not, for this is impossible, nor say it. (Parmenides, DK 2)

For this, what-is-not to be, will never conquer. But you hold back thought from this road of investigation and do not let custom force you along the much-experienced road where sightless sight and ringing ears and tongue rule, but judge by reason the much-fought refutation spoken by me. (Parmenides, DK 7)

There are perhaps three classical objections to following the road from the senses into reason.

One is that following this road leads us into contradictions. Parmenides seems to be the originator of this objection, as he is also the first to bring out that the statement about contradiction is the first of all statements. Heraclitus and others, following the road from the senses, admitted (in words, at least) contradictions. And Parmenides saw that reason cannot really admit a contradiction, that something both is and is not (at the same time and in the same way).

Parmenides and his followers, like Zeno, went so far as to deny that change exists because of the apparent contradictions that Heraclitus pointed out in change and others which Parmenides and Zeno were able to bring out.

But it is difficult to deny that change exists. Such a denial contradicts our experience. Nevertheless, it would be absurd to deny the statement about contradiction because of the fact of change. For one would be denying the statement about contradiction because something contradicted it. This is to say that it is not so because it so - an absurd way of reasoning.

But a way out of the objections of Parmenides and Zeno can be found if the contradictions in change are only apparent. Plato, and especially Aristotle, were able to show this about those contradictions which Heraclitus and Parmenides and Zeno were able to bring out. The untying of these apparent contradictions was the discovery of hidden truths about the natural world. Heraclitus may have seen, in a confused way, at least, the importance of bringing out what seems to be contradictions in our experience and speaking of natural things.

We are not able to judge the truth through the weakness of our senses. (Anaxagoras, DK 21)

There are two forms of knowledge, the one genuine [legitimate] and the other dark [bastard]. To the dark belong all these: sight, hearing, smell, taste and touch. The genuine is separated from this. When the dark is no longer able to see anything smaller, nor to hear, nor to smell, nor to taste, nor to sense by touch, but it is necessary to seek into the smaller, then the genuine which has a tool for knowing the smaller comes in. (Democritus, DK 11)

The second classical objection to following the road from the senses is that the senses are imperfect ways of knowing and cannot see the small things that

make up the natural world. Anaxagoras and Democritus thought that the natural world was made up of things too small to be sensed by our gross senses.

Sweet by custom, bitter by custom, hot by custom, cold by custom, color by custom; in truth, atoms and the empty. We perceive nothing exactly in reality, but only what changes according to the disposition of the body and what flows in and presses against it. (Democritus, DK 9)

And this reason shows that in truth we know nothing about anything, but opinion is a flowing-in to individuals (Democritus, DK 7)

Democritus and others may also have thought that sensing is a result of the senses having been acted upon by what is outside them and that all we know is this result in the senses.

Man should know by this rule that he is separated from reality. (Democritus, DK 6)

And indeed it will be clear that there is no path to knowing how each thing really is. (Democritus, DK 8)

It has now been truly shown in many ways that we do not perceive how each thing is or is not. (Democritus, DK 10)

We really know nothing. Truth is in the depth. (Democritus, DK 117)

This attack upon the senses leads to a kind of despair of knowing in these fragments of Democritus. This despair is strange since man has a natural desire to know and nature is not superfluous. It is especially strange in those whose life is given to pursuing knowledge for its own sake.

A third objection to the road from the senses is based on the sensible world as always changing and knowledge being impossible of what is always changing. Plato imbibed this position from the Heracliteans and sought knowledge by turning away from the sensible world and by reason's contact with another unchanging world. But this thinking must be investigated in the dialogues of Plato and the works of Aristotle where he discusses this position.

## ANSWER TO THESE OBJECTIONS

Eyes and ears are bad witnesses to men, if they have souls that understand not their language. (Heraclitus, DK 107)

The lord to whom belongs the oracle at Delphi neither speaks out, nor hides his meaning, but gives a sign. (Heraclitus, DK 93)

Reason may misunderstand what the senses are saying. The sensible is a sign of something else. Reason may be mistaken when it guesses of what it is a sign.

They do not understand how that which is opposed agrees with itself. There is a turned away harmony, as in the case of the bow and the lyre. (Heraclitus, DK 51)

What may seem opposed is not always opposed.

The hidden harmony is better than the apparent. (Heraclitus, DK 54)

Nature loves to hide. (Heraclitus, DK 123)

*Harmony* is the opposite of contradiction. It comes from the Greek word meaning *to fit together*. There may be a harmony hidden under what seems to be a contradiction. This harmony would especially be hidden in the natural world since nature loves to hide (for it is a cause within and what is within things is hidden from our senses and therefore from us in the beginning).

The opposite is useful, and from those differing comes the most beautiful harmony and all things come to be by strife. (Heraclitus, DK 8)

The apparent contradiction may be the opposite which is useful to discovering the harmony which is hidden under it.

Color is by custom, the sweet is by custom, the bitter is by custom but in truth, the atoms and the empty. [And he makes the senses

reply to the mind] Wretched mind, taking your beliefs [arguments] from us, you try to overthrow us. The overthrow will be your downfall. (Democritus, DK 125)

Reason in general bases itself upon sense experience. And even when attacking the senses, it proceeds from what it has learned from them. Hence, in attacking the senses, it undermines also itself. Just as reason could not be used to show that reason cannot be trusted (you would be trusting reason to conclude that you cannot trust reason), so reason cannot trust the senses for evidence not to trust the senses.

Things that appear are a sight of the unseen. (Anaxagoras, DK 21A)

We may be able to know what is not sensed by its likeness to what can be sensed.

## THE SECOND ROAD: THE ROAD OF REASON AS REASON

### THE ROAD FROM REASONABLE GUESSES TO REASONED OUT KNOWLEDGE

#### MEN DO NOT KNOW BY REASON THEIR OWN IGNORANCE

They differ in the thought governing all things which most of all they are continuously acquainted with, and the things which they encounter daily seem strange to them. (Heraclitus, DK 72)

The many do not understand such things as they meet with, nor in learning do they know, although they seem so to themselves. (Heraclitus, DK 17)

Heraclitus seems to anticipate what Socrates is famous for showing more fully: men do not know that they do not know. In the beginning, reason not only does not know most things, but it does not even know that it does not know them. Things, which are familiar to us, or to which we are accustomed, seem to be known to us. But this is not so.

## REASON IN THE BEGINNING GUESSES AND HAS OPINIONS RATHER THAN KNOWLEDGE

No man has seen, nor will anyone see, the clear truth about the gods and whatever else I say about all things. For if he should chance for the most part speaking perfect, nevertheless he himself does not know it. But opinion is fixed on all. (Xenophanes, DK 34)

In the beginning, men guess and have opinions about things. And it seems doubtful that they will ever get beyond this condition.

Human nature does not have judgment, but the divine has.  
(Heraclitus, DK 78)

Man is not born with the ability to judge between the true and the false like God can by his very nature.

Children's playthings [toys] (*i.e. men's guesses*). (Heraclitus, DK 70)

One is reminded of Whittaker Chambers' disgust with his fellow students at Columbia for whom ideas were ping-pong balls to be played with. This shows a lack of concern for truth which to know is the good of reason.

The most approved man knows, defends, what seems; and surely, judgment [justice] will seize the makers and witnesses of falsehoods. (Heraclitus, DK 28)

Men in their careless guesses are most apt to be mistaken. The famous fabricate false statements and others witness to these falsehoods. Heraclitus is sure that such will be punished.

Let us not guess at random about the greatest things. (Heraclitus, DK 47)

Heraclitus is not telling us not to guess. If that was his intention, the words "at random" would be superfluous. Rather given that we cannot do other than guess in the beginning, he is urging us to make reasonable guesses, at least about the greatest things. Reasonable guesses are apt to have some part of the

truth, or some resemblance to the truth, even if they are not wholly true. We may be able to approach to knowing truth through reasonable guesses. But this cannot be said of wild guesses.

## HOW REASON DISCOVERS

The gods have not shown all things to mortals from the beginning;  
but seeking in time, they have found the better. (Xenophanes, DK  
18)

The discovery or finding of the better takes time. Time as such is not the cause of discovery, but rather the discovery is due to *men searching* in time or is a result of a *search* that takes time.

For narrow are the means spread throughout the limbs and many are the miseries that burst in and blunt the thoughts. And having seen only a small part of life during their lives, and doomed to early death, they are lifted up and carried off like smoke, and believing only that which each one meets with as he is driven every way, they boast of having found the whole. But things are not thus seen or heard by men or grasped by their minds. You, however, since you have withdrawn to here, shall not learn more than mortal wisdom can attain. (Empedocles, DK 2)

In their search, men are apt to see only a part of the truth. Empedocles gives some of the reasons for this: the limitations of the senses, the miseries of life (which do not, as Empedocles says here, blunt our thoughts so much as keep them blunt), and the shortness of our life. Boastfulness, a form of pride whereby we attribute to ourselves more good than we have, may also keep us satisfied with the part we have seen, thinking we have seen the whole.

However, if we are willing not only to discover part of the truth by ourselves, but also to learn from others, it may be possible to approach the whole truth about something through the efforts of many over a long course of time. And thus we see how the arts and sciences have grown through the efforts of many.

If you do not expect the unexpected, you will not find it; for it is hard to be found and difficult. (Heraclitus, DK 18)



Someone might ask how one can expect the unexpected. Is this not a contradiction *to expect the unexpected*? But what is unexpected simply can be expected in some way. How is this possible?

The hidden harmony is better than the apparent harmony.  
(Heraclitus, DK 54)

The opposite is useful and from those differing comes the most beautiful harmony, and all things come to be by strife. (Heraclitus, DK 8)

War is the father of all things, the king of all things...(Heraclitus, DK 53)

We must know that war is common to all and strife is justice, and that all things come into being and pass away by strife. (Heraclitus, DK 80)

Harmony is opposed to contradiction. When reason runs into what seems to be a contradiction in things, or when one statement that reason has reason to think is so contradicts or leads to a contradiction with another statement which reason also has reason to think is so, there is a sign that something is hidden from reason under this contradiction. (One is led to expect the unexpected by this contradiction without yet knowing what to expect.) The elimination of this contradiction will be the discovery of what was hidden below it. This is the hidden harmony which is better than the apparent harmony in the man who has not yet seen how one of his thoughts contradicts another or who has not yet seen the apparent contradiction in things. In this sense, war is the father of all great discoveries. Einstein said likewise that all the essential ideas in science were born from a conflict.

Dispute. (Heraclitus, DK 122)

Heraclitus urges us to dispute because this will bring out those contradictions which are the starting-point for discovery.

HOW REASON DOES NOT COME TO UNDERSTAND

Learning of many things does not teach one to have understanding; else it would have taught Hesiod and Pythagoras, and also Xenophanes and Heccataeus. (Heraclitus, DK 40)

Many who have learned much do not have understanding. (Democritus, DK 64)

One should practice much understanding, not much learning. (Democritus, DK 65)

There is an understanding in the young and a lack of understanding in the old. For time does not teach understanding, but early bringing up [nurture] and nature. (Democritus, DK 183)

Heraclitus and Democritus seem to say the same in these two fragments: *Much learning does not give one understanding*. But what is meant by *learning* here and by *understanding*?

Sometimes *understanding* is the name of a power or ability of the soul, as in the third book *About the Soul* by Aristotle. It is the same as reason although named differently.

Sometimes it signifies the first habit of looking reason as in the sixth book of the *Nicomachean Ethics* of Aristotle. It is, in this sense, the habit of knowing first beginnings that are known through themselves; as, for example, that *a whole is greater than one of its parts*. We could call this understanding *natural understanding*, not in the sense that we are born with it, but that we naturally come to possess it.

But there is also a reasoned out understanding which is a result of thinking out in about seven senses. (These seven senses correspond to the senses of *in* which Thomas Aquinas ordered, following their distinction by Aristotle in the fourth book of *Natural Hearing*, the so called *Physics*. See Thomas Aquinas, *In IV Physicorum*, Lectio IV, nn. 435-436)

Finally wisdom, which is the greatest perfection of reason, is the head of both natural and reasoned out understanding, as Aristotle shows in the *Metaphysics*. The wise man most of all understands.

It is obvious that much learning does not give one understanding in the first two senses since both of them are presupposed to any learning. But a more profound meaning of these fragments is that much learning does not give one reasoned out understanding and, a fortiori, wisdom. But what kind of learning is this? Learning which is more memory and narration than thinking out will not give one reasoned out understanding. And even thinking out something in particular will not lead to wisdom if it is not ordered to wisdom.

Do not try to understand everything, lest you become ignorant of everything. (Democritus, DK 169)

This is connected with what we saw above in Empedocles. Reason cannot see the whole truth about anything at once, but it must see one part after another. Likewise, we cannot understand everything at once, but we must understand one thing after another.

It is necessary to speak truly, not to talk at length. (Democritus, DK 225)

Fastening one summit to another, never to complete one path [way, road] of words [thoughts]. (Empedocles, DK 24)

Thinking out is a continuous movement of reason. By *continuous* is meant here that the end of one thinking out is the beginning of another thinking out. For example, the end of thinking out *what a quadrilateral is* is the beginning for thinking out *what a square is*. Likewise, the end of thinking out by one syllogism is the beginning of thinking out by another syllogism; that is, the conclusion of one syllogism is the premiss of another syllogism. Those who jump from one interesting question or topic to another, without ever completing any *continuous* thinking out, will not arrive at a reasoned out understanding of things.

## HOW REASON COMES TO UNDERSTAND AND JUDGE

Although this thought is always so, men do not understand it - not only before hearing it, but even after they have heard it for the first time. Though all things take place according to this thought, men seem like those without any experience of it when they make

trial of such words and actions as I describe by dividing each thing according to nature and showing how it is. For what they do when awake is hidden from other men just as they forget what they do when asleep. ( Heraclitus, DK 1)

Here Heraclitus is close to saying that he is thinking out things in the second and third and perhaps fourth senses of *out*. He is dividing and defining things.

We should not act and speak like those asleep. (Heraclitus, DK 73)

One would tend to agree with this statement even before knowing fully what it means. No one would say that we should act and speak like those asleep. But the phrase *like those asleep* can be understood in particular and in general, as we will see in the following fragments.

For the waking there is one world, and it is common; but when men sleep, each one turns aside into a private world. (Heraclitus, DK 89)

In particular, those who are asleep are cut off from their senses and, if dreaming, in their imagination. Hence, to act and speak like those asleep means in particular to act and speak cut off from one's senses. Those who follow their imagination rather than their senses are in particular like those who are asleep.

But in general, those who are asleep are cut off from something one and common that is true and stuck in many private falsehoods.

Therefore, we ought to follow what is common. Although reason is common to all, the many live as if having a private wisdom. (Heraclitus, DK 2)

Thinking [understanding] is common to all. (Heraclitus, DK 113)

If then to act and speak like those asleep is to follow the private, and we should not act and speak like those asleep, we ought to follow instead the common. And this is Heraclitus' general conclusion in the beginning of DK 2. But there are many particular conclusions to be drawn from this. One in the second part of DK 2 is that we should follow reason.

Now someone might object that there is only your reason, my reason and the next man's reason. There is no common reason. But there is something common to your reason, my reason and the next man's reason. And even in daily life we

assert this when we say about someone that they will not listen to reason. To listen to reason means to listen to what is common to your reason, my reason and the next man's reason. Or to listen to what is natural to reason for this is common.

Those who speak with understanding must be strong in what is common to all, as much as a city is strong in its law, and even more so. For all human laws are fed by one divine law which governs as far as it wishes and is more than sufficient for all. (Heraclitus, DK 114)

This is perhaps the most illuminating fragment about how man comes to understand. Those who understand must be strong in what is common to all.

What is common to all can be understood in two ways: what is common to all men and what is common to all things.

What is common to all men is our natural desire to know, the natural road underlying our knowledge (the road from the senses into reason), and the axioms or statements known through themselves by all men.

What is common to all things is what is said of all things (being and one) and what is a cause of all things (the first cause or causes). Becoming strong in these, as well as in the three above, is what makes one wise.

It is common to me where I begin. For there I will come back again.  
(Parmenides, DK 5)

Parmenides always came back to the king of statements, the statement and axiom about the impossibility of a contradiction in things. He gave an example of becoming strong in the axiom about contradiction which is the natural beginning of all axioms (or statements known through themselves by all) and, indeed of all statements known through themselves.

## THE GROWTH OF REASON

The soul has a reason which makes itself grow. (Heraclitus, DK 115)

...But come listen to my words. For learning will surely cause your mind to grow. (Empedocles, DK 17)

Reason can be said *to grow* in a number of ways. Since the knower is in some way the known, reason can be said to grow as it comes to know more things. It can also be said to grow when it comes to know the same thing more. And in learning from another, reason is said to grow when it has made its own what it has heard, just as the body does not grow by what is outside of it before it breaks this down and turns this into itself.

Education is another sun to those who are educated. (Heraclitus, DK 134)(Doubtful fragment?)

As the sun enables the eye to see by enlightening certain things, so education casts a light upon a number of things for reason.

#### HOW MENTAL GROWTH DOES TAKE PLACE: THE IMPORTANCE OF THE BEGINNINGS

The first thing, I believe, for mankind is education. For whenever someone has made a beginning correctly in anything, it is likely that the end will also come about correctly. And as is the seed one has sown in the ground, so also are the things one ought to expect will come forth. And when one sows a noble education in a young body, this lives and grows through the whole of life, and neither rain nor drought destroys it. (Antiphon, DK 60)

The beginning is like a seed in reason. And just as plants grow from a seed which is small into something large, so too reason grows from a beginning well considered into many things which can be understood or deduced from this beginning.

If you press these things deep into your firm mind with a friendly disposition and a watchful attention that is pure, certainly all these things will remain with you throughout your life; and you will gain many other things from them; for the former things cause these things to grow into their own character according to the nature of each....(Empedocles, DK 110)

In carrying the word *growth* over to reason, the Greek philosophers would seem to entering upon the road of reason along which it comes to know something from knowing other things. It makes itself grow by coming to know the unknown through the known.

It is good to say twice what ought to be said. (Empedocles, DK 25)

Education does not take root in the soul unless one goes deep. (Protagoras, DK 11)

Because reason gains other things from a beginning only when that beginning is well understood, it is not superfluous to speak of a beginning more than once. And as the great Empedocles said, one must press this beginning deep into one's clear mind in order to be able to derive other things from it.

### THE THIRD ROADS WHICH ARE PRIVATE TO ONE MATTER

...But come, observe with every means in which way each thing is clear, neither hold any sight in trust more than hearing, nor loud-sounding hearing above what is made clear by the tongue, nor hold back belief from any of the other limbs where there is any way to perceive, but observe in the way in which each thing is clear. (Empedocles, DK 3)

Since the first philosophers are more at the step of reasonable guesses than that of reasoned out knowledge, we would not expect them to have a distinct knowledge of the diverse ways of the forms of reasoned out knowledge or understanding. However, in this fragment, Empedocles sees that the best way of knowing should not be followed everywhere. Rather one should use the way of knowing which fits what is being investigated, This is the basic beginning about the road or way of each reasoned out knowledge. It should fit the matter of that reasoned out knowledge. This is the artful way of proceeding for every art adapts itself to its matter.

Remember the man who forgets which way the road leads  
(Heraclitus, DK 71)

In the *Nicomachean Ethics*, Aristotle says that Plato was right to ask whether we are on the road to the beginnings or from the beginnings. This is one very important element of how to proceed in any reasoned out knowledge. Do we reason from causes to effects or from effects to causes? Is the road from causes to effects or from effects to causes? In mathematics, it is the former. But in natural philosophy and ethics it is much more the reverse. We can see in the beginning of modern philosophy that Descartes and Spinoza do not know in which way the road runs. As we saw in the consideration of belief, this is one reason for not believing them.

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