The Project of Pre-Socratic Philosophy

One plausible way to characterize the over-all project of pre-Socratic philosophy is to say that they sought to provide a “rational” (logos) rather than a “mythological” (muthos) account/explanation of the origin and structure of reality. Two guiding questions for the pre-Socratics were:

1. What is the one fundamental, unifying, underlying, enduring archê ('source', 'ruling principle', 'stuff') of reality?

2. What is the principle/process of change? In other words, how does the one fundamental, unifying, underlying, enduring archê of reality give rise to, generate, produce, account for the many different changing things that we encounter in the world of experience?

Other questions that excited [the Milesians] were of this kind: Can this apparently confused and disordered world be reduced to simpler principles so that our reason can grasp what it is and how it works? What is it made of? How does change take place? One scholar puts it this way: “They abandoned mythological and substituted intellectual solutions... [It] was no longer satisfying to say that storms were roused by the wrath of Poseidon, or death caused by the arrows of Apollo or Artemis. A world ruled by anthropomorphic gods of the kind in which their contemporaries believed was a world ruled by caprice. Philosophy and science start with the bold confession of faith that not caprice but an inherent orderliness underlies the phenomena, and the explanation of nature is to be sought within nature itself...”

The archê is WATER

According to Thales, the “first” philosopher, the most basic, fundamental, unifying and enduring stuff of reality is water. It’s a bit unclear whether or not Thales’ suggestion was that everything that exists ultimately originated from water or the everything that exists ultimately originated from water and is actually composed of water. Either way, Thales’ proposal is an attempt to account for the origin and structure of reality in terms of a naturalistic explanation.

Why did Thales posit WATER as the archê?

Although no explicit reasons are given, Thales’ choice of water does seem to be supported by several simple rational considerations: water is a definite, intelligible substance; water is essential to the generation, nutrition and growth of living things; water appears to take on different forms (e.g. liquid, solid, gas) in different conditions; and water also has the inherent ability to animate/transform itself and also to cause/produce change in other things as well.
The archē is the APEIRON
Like Thales, Anaximander tried to offer a rational account of the kosmos by suggesting that the many, different, changing things that we encounter in the realm of human experience could be accounted for in terms of some single, fundamental, unifying and enduring stuff. However, Anaximander’s proposed account replaces Thales’ ordinary elemental water with the non-elemental APEIRON (‘unlimited’, ‘unbounded’, ‘untraversable’, ‘indefinite’).

What is the APEIRON and why did Anaximenes posit APEIRON as the archē?
Anaximander’s APEIRON is probably best understood in terms of the fundamental “indefinite” (in a ‘qualitative’ sense) stuff of reality. Such an understanding of the APEIRON seems extremely plausible if we take Anaximander to be responding to a tension that he recognized in Thales’ account: namely, if ordinary elemental water is the archē, then how can we account for the existence of things that are opposed to water?

A possible undermining argument...
(1) If the archē is WATER, then everything that exists either comes from WATER or is (ultimately) composed of WATER
(2) There exist things that neither come from WATER nor are (ultimately) composed of WATER
   Support for (2): Fire exists and is opposed to water; If X is opposed to Y, then X neither comes from Y nor is (ultimately) composed of Y; Therefore, fire neither comes from water nor is (ultimately) composed of water
(3) Therefore, it is not the case that the archē is WATER

Since this argument can be generalized and applied to all of the “so-called elements”, the crucial point of Anaximander’s reasoning seems to be that whatever the archē is it needs to be qualitatively indefinite (or neutral) and independent of the elements and “pairs of opposites” associated the elements.

The Earth is Motionless
Contrary to popular opinion, Anaximander claimed that the earth (necessarily) “stays still”.

A reconstruction of the argument...
(1) If the earth is moving, then it is moving in some particular direction (D) rather than any other direction (D*)
(2) If the earth is moving in some particular direction (D) rather than any other direction (D*), then there must be some reason for it to be moving in that particular direction (D) rather than any other direction (D*)
   Support for (3) - Principle of Sufficient Reason: For any existing thing X or positive fact Y there is a reason/cause/explanation sufficient to account for X or Y
(3) There is no reason for the earth to move in one particular direction (D) rather than any other direction (D*) since there is just as much reason for it to move in a given direction as there is for it to move in quite the opposite direction
(4) Therefore, it is not the case that the earth is moving (i.e. the earth is motionless)
The *archē* is AIR

Like Anaximander, Anaximenes tried to offer a rational account of the kosmos by suggesting that the many, different, changing things that we encounter in the realm of human experience could be accounted for in terms of some single, fundamental, unifying and enduring stuff. However, Anaximenes’ proposed account replaces Anaximander’s indefinite *APEIRON* and his somewhat vague generative process of “warring elemental-opposites” with a definite intelligible *archē* and the more familiar generative processes of “rarefaction and condensation”.

**Why did Anaximenes posit AIR as the archē?**

Anaximenes was probably a bit dissatisfied with the unintelligibility of the *APEIRON* and the vagueness associated with Anaximander’s account of the initial “separating off” and the generative process of “warring elemental-opposites”. Anaximenes’ may have also recognized a tension in Anaximander’s account: namely, if the *archē* is the *APEIRON* (‘the indefinite’), then how can we account for the existence of things that are opposed to the *APEIRON* (‘the definite’)?

**A possible undermining argument...**

1. If the *archē* is the *APEIRON*, then everything that exists either comes from the *APEIRON* or is (ultimately) composed of the *APEIRON*
2. There exist things that neither come from the *APEIRON* nor are (ultimately) composed of the *APEIRON*
   - Support for (2): Definite things exist in the *kosmos*; ‘the definite’ is opposed to ‘the indefinite’; If X is opposed to Y, then X neither comes from Y nor is (ultimately) composed of Y; Therefore, ‘the definite’ things that exist in the *kosmos* neither come from ‘the indefinite’ nor are (ultimately) composed of ‘the indefinite’
3. Therefore, it is not the case that the *archē* is the *APEIRON*

**Another possible undermining argument...**

1. Theory (T) is an acceptable rational account of the *kosmos* only if (T) provides a plausible account of how the single, fundamental, unifying and enduring stuff of reality gives rise to, generates, produces, etc the many, different, changing things found in the *kosmos*
2. Anaximander’s theory does not provide a plausible account of how the *APEIRON* gives rise to, generates, produces, etc the many, different, changing things found in the *kosmos*
3. Therefore, it is not the case that Anaximander’s theory is an acceptable rational account of the *kosmos*

**The Generative Processes of Rarefaction and Condensation**

According to Anaximenes, it is the contrary processes of “rarefaction” and “condensation” that provide a specific account of how the single, fundamental, unifying and enduring stuff of reality gives rise to, generates, produces, etc the many, different, changing things found in the *kosmos*.

“When it [air] is thinned it becomes fire, while when it is condensed it becomes wind, then cloud, when still more condensed it becomes water, then earth, then stones. Everything else comes from these.” Air is part of a series of changes from fire to air to wind to cloud to water to earth to stones. Matter can travel this path by being condensed, or the reverse path from stones to fire by being successively more rarefied.
The archē is NUMBER
Like Thales, Anaximander and Anaximenes, the Pythagoreans tried to offer a rational account of the kosmos by suggesting that the many, different, changing things that we encounter in the realm of human experience could be accounted for in terms of some single, fundamental, unifying and enduring stuff. However, unlike the Milesians, the Pythagoreans seemed to think that the basic ‘stuff’ of reality was ‘number’ and as such they attempted to provide a kind of numerical account of the origin and structure of the kosmos.

Why did the Pythagoreans posit NUMBER as the archē?
The probable starting point for this Pythagorean idea was their discovery that concordant musical intervals could be expressed mathematically. Based upon this discovery they probably reasoned that if numbers are the basis of music, then perhaps they are the basis of everything else as well.

"From the unit and the infinite dyad spring numbers; from numbers, points; from points, lines; from lines, plane figures; from plane figures, solid figures; from solid figures, sensible bodies, the elements of which are four: fire, water, earth and air; these elements interchange and turn into one another completely, and combine to produce a universe animate, intelligent, spherical, with the earth at its center, the earth itself being spherical, and inhabited round about..." (Diogenes Laertius, Lives of the Philosophers)

The Immortality and Transmigration of the Soul
Pythagoras seems to have been the first Greek thinker to claim that “the soul is immortal” and that “the soul changes into other kinds of animals... at certain intervals”. By claiming that “the soul is immortal”, Pythagoras, in effect, tore down the traditional barrier between the gods and other ensouled beings since “immortality” was typically considered to be tantamount to “divinity”.

Pythagoras’ notion of transmigration (metempsychosis) does not in itself entail the immortality of the soul—since for instance, a feline soul can enjoy nine transmigrations but no more than that. However, taken together, the doctrines of immortality and transmigration imply a major restructuring of values in the following sense: Since all living things possess souls, our own self interest now extends beyond our selves and beyond this lifetime; and if what we do and how we live in this life affects our soul’s next incarnation (as Pythagoras seems to have maintained), then we have strong prudential reasons to choose certain actions and ways of life over others. As such, the entire Pythagorean way of life aimed at improving (or ‘purifying’) the soul so as to attain for it the best possible destiny, which consisted either in attaining the best possible set of reincarnations or complete freedom from the cycle of continued reincarnations.

The Nature and Purpose of Philosophy
According to Pythagoras, a philosopher is a “lover of wisdom”, and one-way to characterize the nature of the philosophical enterprise is in terms of a disinterested, careful contemplation of the nature of things. Moreover, since Pythagoras held that “the contemplation and knowledge of things” is of paramount importance, individuals engaged in such an enterprise are of the “highest quality”.

PYTHAGORAS
The archē is the LOGOS
According to Heraclitus, “nature loves to hide”. And it’s (presumably) because of this that Heraclitus thinks the true nature of reality will only be understood by the few who are willing to “wake up” and search diligently for themselves into the deeper meanings/truths that are conveyed by the common “signs” of the experiential world. Mere intellectual expertise and the acquisition of facts (“much learning”) is not sufficient for true insight and wisdom. Rather, what is needed is an understanding of the LOGOS. For Heraclitus, the LOGOS is the one fundamental thing (or ‘principle’) that is able to provide a rational account of the kosmos... In a sense, it is the “key” to understanding the true nature of reality.

What is the LOGOS?
Drawing on characteristics ascribed to the LOGOS in several of Heraclitus’ Fragments, we see that the LOGOS “hold always”; “can be seen” and “understood”; that things “come to be in accordance with it”; that “it is common to all”; that it is “wise to listen to it”; and that it can be “so deep that it’s limits cannot be fully discovered”.

One way to characterize the message of the LOGOS (that which enables one to understand the true nature of reality) is as the understanding that things are “one because they are many”; that the kosmos exhibits “unity because of opposition”; that there is “permanence because of change”; “stability because of instability”; and “being because of becoming”.

For the most part, the Milesian pre-Socratics all tried to account for change and “becoming” in terms of some more fundamental permanent stuff (e.g. water, apeiron, air, etc). And one way to think about Heraclitus’ message is in terms of a complete reversal of what has been considered to be “most fundamental”. According to this interpretation of Heraclitus, the notions of “being”, “unity”, “permanence”, “stability”, etc all depend on the more fundamental notions of “becoming”, “opposition”, “change” and “instability”.

Evidence of the LOGOS
What evidence is there to support this particular interpretation of Heraclitus and the LOGOS? There are at least three types of evidence found in the Fragments of Heraclitus that can be used to support this particular interpretation of the LOGOS.

First there are the examples of the “bow”, “lyre”, “potion” and “river”. Each of these examples serve as illustrations of how the enduring identity of some entity is actually constituted and preserved by notions of underlying change and tension. Second, there is the well known “unity of opposites” thesis that Heraclitus seems to advocate. Finally, the metaphors of “war”, “strife” and “fire” all can be understood as symbols for the way in which change and conflict are essential components of the kosmos.
The Structure of the Poem

- The Setting (B1)
- The Choice of Ways (B2 through B7)
- The Way of Truth (B8.1 through B8.50)
- The Way of Opinion (B8.51 through B19)

Understanding the Overall Parmenidean Project

One way to carve up Parmenides’ overall project is in terms of a “two-stage” argument for the claim that the true nature of reality consists (exclusively) of what “is”—namely: one, indivisible, ungenerated, indestructible, unchanging and unmoving thing. On this “two-stage” interpretation, the first stage of Parmenides’ project can be understood as an argument for a “central thesis” (CT). Then in the second stage of the project, Parmenides simply argues that a number of (startling) consequences follow logically from the truth of the central thesis.

The Master Argument

We can combine the arguments of both the first and second stages of Parmenides’ overall project into one “master argument” in the following way.

**Parmenides’ master argument...**

1. The true nature of reality consists of either what “is” or what “is not”
2. It is impossible to think or speak of what “is not” (this is Parmenides’ central thesis (CT))
3. Given (CT), any notion that relies upon or makes some sort of appeal to what “is not” ought to be abandoned
4. Since the notions of generation, destruction, change, movement, plurality and divisibility all rely upon or make some sort of appeal to what “is not”, those notions ought to be abandoned
5. Therefore, the true nature of reality consists of what “is”—namely: one, indivisible, ungenerated, indestructible, unchanging and unmoving thing

Premises (1)-(3) of this “master argument” relate to the first stage of Parmenides’ overall project, while premise (4) and the conclusion expressed by (5) have to do with the second stage of the project.

The Choice of Ways

The “argument of the poem is structured like a journey. [First] the goddess offers a choice of two paths of enquiry but [then] immediately rules out one of the paths. [As such], only one path is left, and that is the path we travel in the remainder of “the Way of Truth”, following the various sign-posts left along the route as we find out more and more about the consequences of of sticking rigorously to this path” (Warren, 83).

**The choice of ways argument (extracted from fragments B2, 3, 6 and 8)...**

1. There are only two “ways” (or ‘paths’ of inquiry): the way of what “is” or the way of what “is not”
(2) The way of what “is not” is impossible

(3) Therefore, only the way of what “is” remains

As it is stated, the “choice of ways” argument is formally valid. Moreover, since premise (1) seems quite reasonable, it looks like the entire argument turns on the truth of (2). What’s the support for premise (2)? Why does Parmenides think that the way of what “is not” is impossible?

Assuming that the existential interpretation of “is” (where ‘X is’ means ‘X exists’) is the sense of “is” that Parmenides had in mind, one way to understand the support for (2) is by means of the following sub-argument:

(A) It is possible for X to exist if and only if it is possible for X to be thought of

(B) Whatever can exist, does exist; whatever does not exist, cannot exist

(C) It follows from (A) and (B) that it is impossible to think or speak of what does not exist

(D) Therefore, the way of what “is not” (i.e. what ‘does not exist’) is impossible

Premise (A) is based on the claim put forward in fragment B3 ("for the same thing is for thinking and being") and draws a crucial connection between the possibility of existing and the possibility of being thought of. Premise (B) is based upon the claims put forward in the first few lines of fragment B6 ("that which is there to be spoken and thought of must be. For it is possible for it to be, but not possible for nothing to be") and seems to collapse the distinction between what can exist and what does exist.

As such, the crucial concepts involved here are those of EXISTENCE (what exists), POSSIBILITY (what can exist) and CONCEIVABILITY (what can be thought of). How does it all fit together? The (rough) idea seems to be this: Premise (A) links possibility to conceivability such that what can be thought of = what can exist; Premise (B) links possibility to existence such that what can exist = what does (and must) exist; Finally, taken together, premises (A) and (B) link conceivability to existence such that what can be thought of = what exists.

The Central Thesis

Given this analysis, it looks like the “central thesis” (CT) underwriting Parmenides’ rejection of the way of what “is not” is the claim that it is impossible to think or speak of what “is not”. Another way to represent the reasoning used to support (CT) is by means of the following argument.

An argument for the “central thesis” (CT)...

(1) A thing can be thought of only if it is possible for it to exist (cf. fragment B3)

(2) Anything that does not exist, cannot exist (cf. fragment B6)

(3) Anything that can exist, does exist

(4) A thing can be thought of only if it exists

(5) Anything that does not exist, cannot be thought of

Or, more formally...

Let "Tx" stand for "x is thought of"; Let "Ex" stand for "x exists"; Let "◇" stand for "it is possible that"; Let "¬" stand for "it is not the case that"

(1) ◇Tx → ◇Ex

(2) ¬Ex → ¬◇Ex

(3) ¬◇Ex → Ex (from 2 by contraposition)

(4) ◇Tx → Ex (from 1 and 3 hypothetical syllogism)

(5) ¬Ex → ¬◇Tx (from 4 by contraposition)

Evaluating the argument for (CT)

As we’ve reconstructed it, the above argument for (CT) is formally valid. Moreover, the only substantive premises are (1) and (2). And since premise (1) seems plausible (if not true), it looks like premise (2) is where all of the action is. But is (2) true? It seems false to say that only what actually, in fact, exists could possibly exist. Why should Parmenides believe this?
Parmenides seems to be posing constraints on language and thought... a kind of limit on what can be spoken or thought of. More specifically, he seems to think that we cannot speak or think of things that are “not” (i.e. that ‘do not exist’). If he’s right, then much of what goes by the name of “speaking” or “thought” really won’t count as such for Parmenides. For if you do anything that Parmenides would call speaking or thinking of what “is not,” then he would not even call it speaking or thinking. In other words, he could argue along the lines suggested by Plato (cf. *Sophist* 237C-E) that:

“If you are speaking of what is not, then what you are speaking about is nothing, i.e., is not anything at all. That is, you are not speaking of anything, which is to say that you are not even speaking. For speaking is always speaking of something, and in the (alleged) case of “speaking of what is not” there is nothing that is being spoken of. So there is no such thing as “speaking of what is not.”

**The Way of Truth**

Having made a strong case against the possibility of the way of “is not”, Parmenides now begins to describe the only remaining way of what “is”.

“In a carefully constructed series of arguments Parmenides claims to prove the following theses: there is no coming to be or perishing, no change or motion; what is has all possible parts and attributes; it is undivided and continuous; only one thing exists; consequently, are senses are wholly misleading and our ordinary ways of thinking and talking are false, incoherent and incomprehensible.” (McKirahan)

By Parmenides’ lights, the following four conclusions follow (as consequences) from the truth of the central thesis (CT):

(a) There is no *generation* or *destruction*
(b) There is no *change*
(c) There is no *movement*
(d) There is no *plurality*

Why are these taken to be consequences of (CT)? How did Parmenides get from his central thesis to these extraordinary conclusions? Well, according to Parmenides, the way of truth cannot be infected with what “is not”. And since Parmenides thinks that the notions of *generation*, *destruction*, *change*, *movement*, *plurality* and *divisibility* all seem to rely upon or make some sort of appeal to what “is not”, all of those notions ought to be abandoned.

One way to sketch out the general form of Parmenides’ reasoning is by means of the following argument schema:

**The general form of Parmenides’ “consequence argument”**...

(1) Whatever “is” can be said to have property Y (where ‘Y’ stands for some property of *generation*, *destruction*, etc) only if an appeal to the notion of what “is not” is made

(2) It is not possible to make an appeal to the notion of what “is not”

(3) Therefore, whatever “is” cannot be said to have property Y

So for example, suppose you say that something (X) comes into existence. That means that you are committed to saying that there was a time when X did not exist. So you are committed to thinking or speaking of what does not exist. But given what’s already been argued you can’t do that. Thus it makes no sense whatsoever to say that anything comes into existence.
Moreover, since this same line of reasoning can be re-worked as an argument against the possibility of destruction, change, movement and plurality it looks like Parmenides has made a pretty good case for his claim that the true nature of reality consists (exclusively) of what “is”—namely: one, indivisible, ungenerated, indestructible, unchanging and unmoving thing.

The Way of Opinion
In this section of the poem the goddess gives a more traditional kind of cosmological account of how the kosmos we perceive came to be. However, given the arguments in favor of what “is” and the true nature of the way of truth, what’s the best way to make sense of the goddesses motivation for concluding with the “deceptive words” of mortal opinion?

Four ways of interpreting the cosmology...
(a) It is best understood as a “systemized account of contemporary cosmological beliefs”
(b) It is best understood as an “extension of the way of truth”
(c) It is best understood as a “second-best explanation of the nature of reality”
(d) It is best understood as a “completely false account of things”

To my mind, (c) and (d) seem like the most plausible (and textually tenable) options. However, I think the best interpretive approach is to combine them and take the goddesses general point to be something like this: “even the best cosmological account of reality that can be given is ultimately erroneous and untenable”. One way to spell out this possible line of reasoning is in terms of the following argument:

The “even the best cosmology is bad” argument...
(1) The cosmology put forward in the way of opinion is superior to all other cosmologies
(2) The cosmology put forward in the way of opinion is ultimately erroneous and untenable since it is based on a fundamental theoretical error (namely, thinking that what ‘is’ and what ‘is not’ are ‘the same and not the same’)
(3) Therefore, a fortiori, all other cosmologies are ultimately erroneous and untenable

A Summary of Parmenides’ Views
• He begins making some basic assumptions about the “thought” and “existence”
• Then, from these basic assumptions, he derives his central thesis (CT)—namely, the claim that it is impossible to think or speak of what “is not”
• Then, based upon this central (CT), he derives several important corollaries that defy common sense—namely, that there is no such thing as generation, destruction, change, movement or plurality. As such, the true nature of reality consists of one, indivisible, ungenerated, indestructible, unchanging and unmoving thing.
• Finally, he provides the way of opinion in order to demonstrate that even the best attempt to provide a “traditional style” cosmological account of the kosmos cannot be justified
Zeno’s Philosophical Project
Zeno sought to provide indirect support for the views of Parmenides by challenging those who denied the tenets of Eleatic philosophy to try and make sense of their own philosophical views. Zeno did this by composing a number of paradoxical arguments designed to show the difficulties involved in maintaining a number of (seemingly) intuitive beliefs about space, time, plurality and motion. One way to characterize Zeno’s strategy is to say that he tried to “repay those who ridiculed Eleatic philosophy in their own coin” by demonstrating that pluralism (the view that many things exist) is either untenable or at least just as counter-intuitive as Eleaticism.

The Paradoxes of Motion
Although ancient testimony suggests that the majority of Zeno’s paradoxes took the form of various reductio arguments against pluralism, his most (in)famous puzzles have to do with the impossibility of motion. According to Aristotle, Zeno constructed two paradoxes of motion (the Dichotomy and the Achilles) that posed the same basic problem. One way to reconstruct the gist of the paradox is by means of the following argument:

The argument against motion...
(1) In traversing a distance A__B it is always necessary to traverse half the distance
(2) The half-distances between A__B are infinite in number
(3) It is impossible to traverse that which is infinite in number
(4) Therefore, it is impossible to traverse the distance A__B

According to this line of reasoning, anyone who believes that motion exists is committed to a logical impossibility—namely, that it is possible to traverse something that is untraversable. And since any view that entails a logical impossibility should be abandoned as inconsistent, it follows that, appearances to the contrary, motion does not exist.

Responding to the Paradox
In order to resist the startling conclusion of Zeno’s paradox, one must be able to show that the existence of motion does not involve the impossible. Surprisingly, this is not as easy to do as it may seem. One way to try and resolve the paradox successfully is to accept premises (1) and (2) above, but claim that premise (3) of Zeno’s argument is true only if one attempts to get through (i.e. traverse) an infinite amount of things (half-distances) one at a time. In other words, it may be true that it is impossible to traverse an infinite series of half-distances between A__B one at a time. But accepting this does not entail that it is impossible to traverse the distance A__B. For example, suppose that it takes (or at least appears to take) 100 ordinary steps to traverse the distance A__B. Although it is true that there exists an infinite amount of half-distances between A__B and that it would be impossible to traverse that infinite series of half-distances one half-distance at a time, it does not follow that it is impossible to traverse A__B. Why not? Well, because it is possible to traverse A__B in a way other than traversing each of the half-distances between A__B one at a time. How so? Well, how about by traversing A__B by means of taking 100 ordinary steps. Since taking 100 ordinary steps is sufficient to cross A__B, it looks like it is possible to traverse an infinite amount of half-distances after all.
The Pluralist Project
The (general) project of post-Parmenidean pre-Socratic philosophy was to try to provide an account of the *kosmos* that (a) respected Parmenides’ claims about what really “is” but also (b) provided some explanation for the appearance of change and diversity that we encounter in the world of human experience.

On the one hand, all of the pre-Socratic “pluralists” (Anaxagoras, Empedocles and the Atomists) agreed with Parmenides that what really exists is not subject to any kind of generation or destruction. On the other hand, they all rejected the claims associated with Parmenides’ extreme monism--namely, that there is no such thing as plurality or motion.

Where the pluralists seemed to differ among themselves was over the reality of qualitative difference and the existence of what “is not”. Empedocles and Anaxagorases allowed for qualitative difference, but denied the existence of what “is not”. While the Atomists (Leucippus and Democritus) denied the existence of qualitative change (at least on the level of what’s really real) and argued that the existence of “void” or what “is not” was necessary for any pluralistic account of the *kosmos*.

Love, Strife and the Roots
According to Empedocles, the true nature of things can be explained in terms of four fundamental elements (or ‘roots’) and two cosmic forces. *Earth, Water, Air* and *Fire* (EWAF) are the aspects of Empedocles’ account that retain the basic Parmenidean requirements for Being. In addition to these fundamental constituents, Empedocles adds the motive forces of Love and Strife. Love is the force that “brings together” or unites, while strife is the force that “pulls apart” or separates.

The basic cosmological picture
The exact details of how the world of the many is generated out of love, strife and the EWAF are a bit murky. It appears that the opposing forces of love and strife somehow “act upon” the EWAF is such a way that brings about the “mixed” world of the many.

The everything is EWAF principle
Given Empedocles’ particular cosmological account, he seems to think that everything found in the world of the many can be explained in terms of some mixture of EWAF.

(E) For all X, X exists if and only if X is some mixture of Earth, Water, Air and Fire

Given this reductive account of reality, Empedocles’ even suggested that each “mixed thing” could be understood in terms of some specific recipe (or ratio) of EWAF. For instance, a “bone” would be nothing other than the following recipe of EWAF: 2 parts water, 4 parts fire and 3 parts earth.
Mixture and Mind
Generally speaking, Anaxagoras thought that the reality of the kosmos could be accounted for in terms of “mixture and mind”.

The basic cosmological picture
In the original state of the kosmos “all things were mixed together” in some undifferentiated way. Then, at some time, the motive force of mind (nous) set the original mixture of cosmic ingredients in motion. Next, due to the motion initiated by mind, the cosmic ingredients are “separated off” from the original mixed state and begin recombining to produce the world of sensible objects.

What are the core assumptions/principles that seem to be underwriting this particular pluralistic picture of reality?

The no coming-to-be or passing-away principle
Like the other pluralists, Anaxagoras denied that there could be any absolute generation or destruction of what “is”. According to Anaxagoras, the correct way to conceive of coming-to-be and passing-away is in terms of the mixture and re-mixture of the fundamental constituents of reality (what he called ‘seeds’).

“The Greeks do not think correctly about coming-to-be and passing-away; for no thing comes to be or passes away, but is mixed together and dissociated from the things that are. And thus they would be correct to call coming-to-be mixing-together and passing-away dissociating...” (DK 59 B17)

However, he also seems to have expanded his thought to endorse the further view that no X can come-to-be from what is not already X. For, he thought, “how could hair come-to-be from not hair and flesh from not flesh?” (DK 59 B10)

The argument from hair...
(1) Hair “seems” to come-to-be and pass-away
(2) Either hair really does come-to-be and pass-away or hair does not come-to-be and pass-away
(3) No X can come-to-be from what is not already X
(4) Therefore, if hair really does come-to-be, then it must come-to-be from what is already hair

The everything-in-everything principle
To avoid having to admit that there are cases of X coming-to-be from what is not already X, Anaxagoras claimed that “all things share a portion of everything [else]...” and that “in everything there is a portion of everything except mind”. The idea expressed by these texts (and others) is often referred to the thesis of “universal mixture”.

The principle of predominance
But if everything is in everything, why isn’t every kind of stuff the same as every other kind of stuff? The answer is in what we might call Anaxagoras’s principle of Predominance:

(P) Each kind of stuff is called after the ingredient of which it contains most.
Atoms and Void
According to the Atomists, all that really exists are “atoms and void”.

The indivisibility of the atoms
There are at least two reasons for thinking that the Atomists believed it was logically impossible (rather than just physically impossible) for an atom to be divided. First, only by positing a logically indivisible atom are the Atomists able to successfully block the problems of infinite divisibility raised by Zeno’s paradoxes. Second, based on the assumption that “what ‘is’ is no more at one point than at any other” the Atomists advanced a kind of “indifference argument” for the indivisibility of the atoms.

The necessity of the void
The Atomists maintained that the existence of “void” (‘empty space’, what ‘is not’) is necessary for any pluralistic conception of reality. Why exactly? Well, they seem to have taken their cue from an anti-pluralistic argument that Melissus put forward.

Melissus’ argument...
(1) Plurality and motion exist only if what ”is not” exists
(2) It is impossible for what “is not” to exist
(3) Therefore, plurality and motion do not exist

The Atomists accepted premise (1) of Melissus’ argument, but maintained--as all the pluralists did--that there are good grounds for accepting what the senses tell us about the existence of plurality and motion. As such, the Atomists simply reversed the argument thereby generating a conclusion for the existence of void.

The Atomist argument...
(1) Plurality and motion exist only if what ”is not” exists
(2) Plurality and motion exist
(3) Therefore, what ”is not” exists

The basic cosmological picture
In the pre-cosmic state an infinite amount of infinitely shaped and sized atoms exist in an infinite void. Then, “these atoms, which are separate from one another in the unlimited void and differ in shape and size and position, and arrangement, move in the void, and when they overtake one another they collide, and some rebound in whatever direction they may happen to, but others become entangled in virtue of the relation of their shapes, sizes, positions, and arrangements, and stay together, and this is how compounds are produced.”

Some Worries to Consider
• Can the Atomists consistently maintain both of the following claims: (a) the atoms are physically extended entities that possess a certain size and shape; and (b) the atoms are logically indivisible entities. After all, if atom X has a particular size and shape (say, Z), then isn’t it logically possible to divide atom X in terms of that particular shape and size (e.g. half the size and shape of Z)?

• If Atomism is true, then a few undesirable consequences seem to follow. For instance, it seems as if any genuine notion of human free will is automatically ruled out given the purely mechanistic account of change and motion posited by the Atomists’ picture of reality.
Three Guiding Themes of Sophistic Thinking

Although Greek interest in rhetoric did not emerge suddenly in the fifth century BCE, the “Sophists” were the group of thinkers that popularized the art of “persuasive speech”. According to some scholars, there are certain quasi-technical terms that aptly describe the Sophistic motivation and outlook on language, truth and the techniques of persuasive speech: “eristic”, “anti-logic” and “dialectic”.

Eristic
The easiest of these characteristic terms to define is “eristic”, which means the application of any and all skill towards success in debate. In other words, the eristic speaker is willing to do whatever it takes to win the debate at hand: exploit ambiguities and fallacies, wander into lengthy irrelevance, etc.

Anti-logic
The term “anti-logic” refers to the pitting of one argument against another on the same topic. The Sophists maintained that “there are two opposing arguments concerning everything...” (80 B6a). In a sense, arguments were mere tools in the Sophists’ toolbox and best artisan of persuasion was the one who could speak on either side of any dispute and even be able, if need be, “to make the weaker argument [appear] the stronger” (80 B6b).

Dialectic
Although the term “dialectic” was sometimes used by Plato to describe the highest level of philosophical reasoning (i.e. the thoughtful contemplation of the Forms), the term’s primary meaning and usage are tied to the Greek verb dialegesthai, “to converse”. One way to understand how this primary sense of the term is characteristic of Sophistical thinking is to say that the it was the conversation itself that really mattered for the Sophists. Unlike Socrates, for instance, who was genuinely interested in discovering the truth about X by means of conversing with others about the nature of X, the Sophists had no real stake in finding the truth. All they cared about was success in conversation... the truth was simply irrelevant.

Protagoras and Relativism
It was Protagoras who infamously claimed that “a human being is the measure of all things-- of things that are, that they are, and of things that are not, that they are not” (80 B1).

Although the term “relativism” has been defined in various ways, generally speaking it refers to the view that things may only be said truly to be some way or another in relation to someone or something else. This kind of relativism thus allows apparently conflicting perceptions and judgements to be equally true. In other words, each perception or judgement of X will be true for the person whose perception or judgement it is. As such, there is no real independent “fact of the matter” when it comes to the truth of X.