

Name _____

Date_____

Class Sec. _____

Homework – Presocratic Philosophy: Early Theories of Change

Instructions: Use the attached reading on the next page to answer the questions below. Please answer in complete sentences. Make sure to explain your answer to receive full credit.

1. Can you think of a reason why logic might be the most important part of how the universe works? explain.
2. According to Heraclitus, what does “flux” mean? Give me an example Heraclitan flux and explain.
3. “You can never step into the same river twice.” What does this mean and why is it flux? Explain.
4. How does Parmenides disagree with Heraclitus; what of Parmenides’ argument is different from Heraclitus’? Explain.
5. Who do you agree with more, Parmenides or Heraclitus? Why? Explain.

READING ON THE NEXT PAGE



EVERYTHING IS FLUX

HERACLITUS (c.535–475 BCE)

IN CONTEXT

BRANCH

Metaphysics

APPROACH

Monism

BEFORE

6th century BCE The Milesian philosophers claim that the cosmos is made up of a single specific substance.

6th century BCE Pythagoras states that the universe has an underlying structure that can be defined mathematically.

AFTER

Early 5th century BCE

Parmenides uses logical deduction to prove change is impossible.

Late 4th century BCE Plato describes the world as being in a state of flux, but dismisses Heraclitus as contradictory.

Early 19th century Georg Hegel bases his dialectic system of philosophy on the integration of opposites.

Where other early Greek philosophers seek to uncover scientific explanations for the physical nature of the cosmos, Heraclitus sees it as being governed by a divine logos. Sometimes interpreted to mean “reason” or “argument”, Heraclitus considers the logos to be a universal, cosmic law, according to which all things come into being, and by which all the material elements of the universe are held in balance.

It is the balancing of opposites, such as day and night and hot and cold, which Heraclitus believes

leads to the unity of the universe, or the idea everything is part of a single fundamental process or substance—the central tenet of monism. But he also states that tension is constantly generated between these pairs of opposites, and he therefore concludes that everything must be in a permanent state of flux, or change. Day, for instance, changes into night, which in turn changes back again to day.

Heraclitus offers the example of a river to illustrate his theory: “You can never step into the same river twice.” By this, he means that at the very moment you step into a river, fresh waters will immediately replace those into which you initially placed your foot, and yet the river itself is always described as one fixed and unchanging thing.

Heraclitus's belief that every object in the universe is in a state of constant flux runs counter to the thinking of the philosophers of the Milesian school, such as Thales and Anaximenes, who define all things by their quintessentially unchanging essence. ■

“The road up and the road down are one and the same.”

Heraclitus

See also: Thales of Miletus 22–23 ■ Anaximenes of Miletus 330 ■ Pythagoras 26–29 ■ Parmenides 41 ■ Plato 50–55 ■ Georg Hegel 178–85



ALL IS ONE

PARMENIDES (c.515–445 BCE)

IN CONTEXT

BRANCH
Metaphysics

APPROACH
Monism

BEFORE

6th century BCE Pythagoras sees mathematical structure, rather than a substance, as the foundation of the cosmos.

c.500 BCE Heraclitus says that everything is in a state of flux.

AFTER

Late 5th century BCE Zeno of Elea presents his paradoxes to demonstrate the illusory nature of our experience.

c.400 BCE Democritus and Leucippus say the cosmos is composed of atoms in a void.

Late 4th century BCE Plato presents his theory of Forms, claiming that abstract ideas are the highest form of reality.

1927 Martin Heidegger writes *Being and Time*, reviving the question of the sense of being.

The ideas put forward by Parmenides mark a key turning point in Greek philosophy. Influenced by the logical, scientific thinking of Pythagoras, Parmenides employs deductive reasoning in an attempt to uncover the true physical nature of the world. His investigations lead him to take the opposite view to that of Heraclitus.

From the premise that something exists (“It is”), Parmenides deduces that it cannot also not exist (“It is not”), as this would involve a logical contradiction. It follows therefore that a state of nothing existing is impossible—there can be no void. Something cannot then come from nothing, and so must always have existed in some form. This permanent form cannot change, because something that is permanent cannot change into something else without it ceasing to be permanent. Fundamental change is therefore impossible.

Parmenides concludes from this pattern of thought that everything that is real must be eternal and



Understanding the cosmos is one of the oldest philosophical quests. In the 20th century, evidence from quantum physics emerged to support ideas that Parmenides reached by reason alone.

unchanging, and must have an indivisible unity—“all is one.” More importantly for subsequent philosophers, Parmenides shows by his process of reasoning that our perception of the world is faulty and full of contradictions. We seem to experience change, and yet our reason tells us that change is impossible. The only conclusion we can come to is that we can never rely on the experience that is delivered to us by our senses. ■

See also: Pythagoras 26–29 ■ Heraclitus 40 ■ Democritus and Leucippus 45 ■ Zeno of Elea 331 ■ Plato 50–55 ■ Martin Heidegger 252–255