

## The Philosophical Origins of Psychology

## History of Psychology and Philosophy

- Focus: key historical figures from philosophy with an emphasis on their impact on psychology.
- Historical Period to be covered: 570BC - 1873AD= 2443yrs!
- From Pythagoras to J.S.Mill.
- Not an exhaustive list of philosophers.
- E.g. Albert Ellis (Rational-Emotive Behaviour Therapy—a mainstay of CBT) was heavily influenced by Stoics (345BC Greece-180AD Roman Empire).

## History of Psychology and Philosophy

- It's next to impossible to give a complete portrayal of the influence of philosophy on psychology—too many individuals.
- A selective look at some of the major philosophers, tracing the influence of their thought on modern psychology.

## Some Questions

- What are the philosophical origins of psychology?
- What is psychology?
- What is philosophy?
- What is historical relationship between philosophy and psychology?

## What is Psychology?

- “Psychology is the *science* of behaviour and the *mind*.”
- Behaviour refers to the *observable* actions of an individual person or animal.
- Mind refers to an individual's sensations, perceptions, memories, thoughts...and other subjective experiences.
- As a science, psychology endeavours to answer questions through the systematic collection and logical analysis of objectively observable data.

## What is Psychology?

- It is also a *set of questions*: the set of all questions answerable by scientific means—psychology as a subject matter (the various objects of study).
- It is also a *set of procedures for answering questions*: psychology as a methodology (the scientific method etc.).
- It is also a *product of history*.

## Philosophical History of Psychology

- Psychology as a *science* is a relatively recent invention (1879).
- But people have wondered about the nature of mind since some of the earliest days of recorded history.
- Task: to look at influence of philosophers on the development of psychology: i.e. philosophy's influence on both the *subject matter* and *methodology* of psychology.

## What is Philosophy?

- Since its early beginnings philosophy has been concerned with understanding the world in the most general sense possible.
- Philosophers were the first to wonder about the nature of the world and our place in it.
- Eventually the various sciences were born out of philosophy and have become the primary means of gaining knowledge about specific aspects of the world (e.g. physics, chemistry, biology).
- The pursuit of knowledge became specialized: each discipline with its own unique subject matter and methodology.

## What is Philosophy?

We can also conceive of philosophy as:

1. a subject matter; and
2. a methodology.

## What is Philosophy?

Philosophy as a Methodology

- One view is that philosophy studies the same things—the same world—as, for example, scientists do, but that they do so in a different, and complementary way.
- Scientists draw conclusions from empirical *observations* of the world, whereas philosophers emphasize *rational arguments* (and logic) to justify claims about the world.
- This becomes more evident when we look at pre-scientific philosophy.
- This does not mean that philosophers are not interested in empirical results.

## What is Philosophy?

Philosophy as a *subject matter*.

The four major branches of philosophy:

- Metaphysics
- Epistemology (Theory of Knowledge)
- Ethics (& Social Political Theory)
- Logic

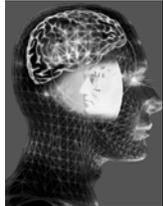
## What is Philosophy?

- Metaphysics is the study of what exists.
- Metaphysicians wonder what objects exist in the universe; what their relations are to one another; what they are composed of...
- Some metaphysical questions...
  - What exists?
  - Are things made of one substance or many?
  - What is the nature of mind?
  - What is the place of mind in the natural world? (mind/body problem)



## What is Philosophy?

- Epistemology is the study of *knowledge*.
- Epistemologists wonder what knowledge is; how we go about attaining it; what are the limits of knowledge (i.e. what can we know)...
- Some epistemological questions:
  - What can we know?
  - Are our perceptions a reliable source of knowledge?
  - How ought we go about gaining knowledge?
  - How can we know the nature of mind?
  - How can we scientifically study something (i.e. the mind) that is unobservable?



## What is Philosophy?

- There is a fundamental relationship between epistemology and metaphysics.
- If we want to understand what exists in the world, that will necessarily be constrained by the resources we have available for gaining that knowledge.
- In general, we can only know those things that we have access to: i.e. things that are observable or demonstrable through experimentation or logical analysis.

## What is the Relationship Between Psychology and Philosophy?

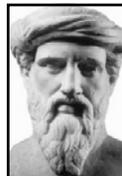
There are two reasons that the history of philosophy is of interest to psychologists.

1. It has been a source of ideas regarding the mind and behaviour: i.e. it has influenced the *subject matter* of psychology.
2. It has influenced the *methodology* of psychology: e.g. the development of empiricist thought and the scientific method.

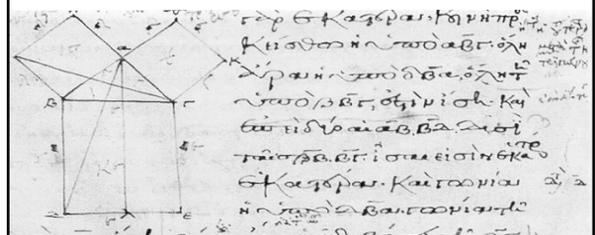
## What is the Relationship Between Psychology and Philosophy?

- Ideas evolve over time, with individual thinkers contributing to this ongoing development.
- While we will focus on individuals, what we are interested in is the intellectual history.

## Ancient Greece



## Pythagoras



## Pythagoras

- Lived 570-495 BC.
- Greek mathematician and philosopher.
- Mathematics as a deductive demonstrative science begins with him.
- Known for his famous theorem.
- Mythic as well as a real character in history.
- Founded a semi-secret society in Italy (the Pythagoreans).
- Russell describes Pythagoras as one of the most intellectually important men that ever lived.

## Pythagoras

### Mathematics, Music and Nature

- Pythagoras is famous for saying that “all things are numbers.”
- According to this view, nature obeys and reflects the laws of numbers: that mathematics is the structure of reality.
- It is said that Pythagoras first came to this conclusion listening to a blacksmith’s hammers: light → high sounds; heavy hammers produced low sounds (though this is disputed).

## Pythagoras



- The same correlation exists between the length of the plucked strings and the sound they produce.
- Music is essentially mathematical.
- The discovery of the musical concords (octave, fifth, fourth), which are essentially simple mathematical ratios—1:2, 2:3, 3:4 respectively—is attributed to Pythagoras.

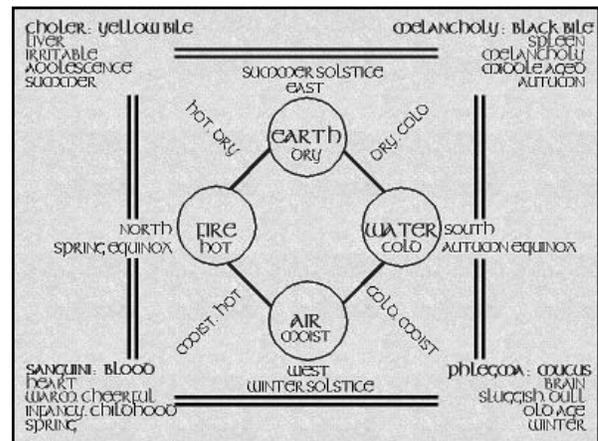
## Pythagoras

- Thus, the discovery of the mathematical nature of music provides one source of evidence that nature is mathematical for P.
- Another source is the presence of mathematical shapes, which can be expressed numerically, throughout nature.
- This led P to think that everything is numbers and that mathematics unified all things.

## Pythagoras

### Pythagorean Opposites

- In Pythagoras’ metaphysics we see a return to the Ionic (Thales, Anaximenes, Heraclitus) principle of opposites.
- The elements basic elements earth, water, air and fire are created by mixtures of the four fundamental opposites: hot, cold, wet and dry (e.g. earth is cold and dry, water cold and wet...)
- The world is made up by mixtures of these elements: by mixing opposites, where opposites are always understood to be in tension.



## Pythagoras

- Pythagoras understood the opposites mathematically: *unity* (or order) was one pole while *multiplicity* (or chaos) was the other.
- The objects we see (various forms of life) are the result of these opposing forces achieving a proper proportion or *harmony*, like that found in music.

## Pythagoras

### The Music of the Spheres

- There were either 7 or 8 notes in the scale, depending on which kind of intervals were used (conjunct or disjunct).
- Conveniently, there were either seven or eight heavenly bodies, depending whether you included the fixed stars or not: Moon, Sun, Mars, Mercury, Venus, Jupiter, Saturn and the fixed stars.



## Pythagoras

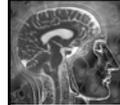
- Carried away by his enthusiasm, he discovered the mathematical basis of harmonies, and convinced that all could be explained by mathematics and music, Pythagoras thought the heavenly bodies produced a kind of music.
- The rotating spheres each emit a note, and these notes collectively form a scale.
- So, the rotation of the planets produced a kind of harmonious music.



## Pythagoras

What does any of this have to do with psychology?

- *Harmony* means 'attunement.'
- The word is a technical term in shipbuilding and it means the right adjustment of timbers to each other to make a vessel watertight and seaworthy.
- From there it is applied to adjusting the tensions of the strings of a lyre: so *harmony* is the right adjustment of the entirely material or physical strings.



## Pythagoras

- What the soul or mind is, is nothing other than the proper adjustment (attunement/proportion) of the various elements of animal anatomy—like tuning of a lyre.
- Given P's mathematical view about nature, the soul, then, is just the numerical harmony of the body.
- This is an interesting forerunner to modern materialist theories of mind.
- Incidentally, only the properly tuned mind can here the music of the spheres.



## Pythagoras

### More on Mind

- The soul has three parts: reason, intelligence and desire (Baldwin, 1913).
- The first of these, the reason, is peculiar to humans; animals have the other two.
- This is an early attempt at classifying mental powers or faculties; but it goes no further than this.
- Pythagoras also had a theory of metempsychosis (reincarnation), which suggests the separation of soul (mind) and body.
- But this view seems to be contradictory to his view about the nature of the mind.

## Pythagoras

### Pythagoras and Methodology

- In Pythagoras we also find a division between the world of sensible experience (appearance) and the 'real' world, the world of mathematics (reality).
- "Mathematical knowledge appeared to certain, exact, and applicable to the sensible world" (Russell, 1945).
- It was obtained merely by thinking, without observation.
- Thought to supply an ideal from which every-day empirical knowledge fell short.

## Pythagoras

- In this way, thought was believed to be superior to sense, and thus a better way to gain knowledge about the world.
- This is an early form of the perennial tension between rationalism and empiricism: the extent to which knowledge is dependent on sense experience (observation).

## Pythagoras

- Rationalism: the belief that reason is the source of our concepts and knowledge/justification—that reason our primary means of gaining knowledge about the world.
- Empiricism: the belief that sense experience is the ultimate source of all our concepts and knowledge.
- Theory vs. observation distinction.
- Theoretical vs. Atheoretical Psychology.
- Parallels in the nature vs. culture debate.
- And behaviourism vs. Cognitivism.

## Plato



## Plato

- Lived 427-347 BC.
- Student of Socrates.
- Most of what we know about Socrates comes through Plato and his famous 'Socratic dialogues'.
- Established the first Academy (approx. 385 BC). An institution of higher learning.
- The teacher of Aristotle.
- One of the most famous and most cited philosophers of all time.
- The entirety of Western philosophy is but a footnote to Plato (Whitehead, 1933).

## Plato

### The Forms

- Plato too was beguiled by the perfection found in mathematics.
- E.g. when we understand the rule that the sum of the angles in a triangle are equal to two right angles, we can apply this to any and all triangles.
- For Plato, this didn't require knowledge of any particular triangle, rather it is knowledge of the *property of triangularity*.
- No *actual* triangle is *exactly* triangular, but only approximately so.

## Plato

- Triangularity is a universal.
- A universal is a characteristic or property that may be possessed by more than one object (e.g. redness).
- Here we see a distinction between individual things (e.g. the redness of a particular apple) and what they have in common (i.e. the universal).
- This is the ancient forerunner to the notion of a category or concept.

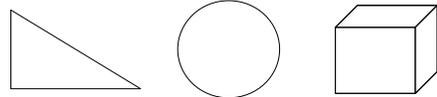
## Plato

- Plato gives *universals* the name *eidos*, usually translated as Forms or Ideas.
- The Forms as a whole make up a distinct realm of existence from the natural world.
- They are changeless eternal entities (like numbers).
- In contrast, the material objects of sense experience are always changing, taking on new characteristics, coming in and out of existence.
- E.g. the beauty of a painting.

## Plato

- For Plato, material objects become the kinds of objects they are (e.g. beautiful, round, yellow) by *partaking* or *resembling* the Forms to some extent.
- They are imperfect resemblances of their corresponding Form.

## The Forms



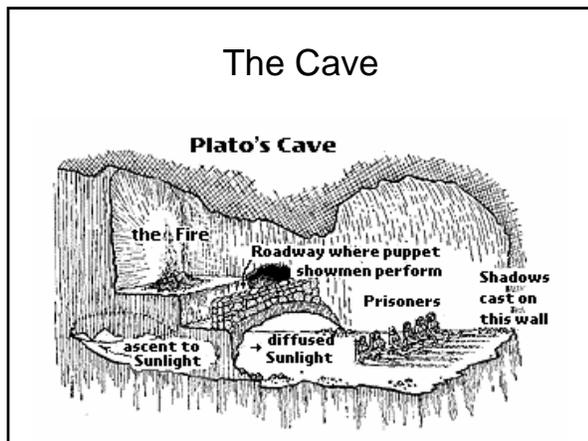
## Plato

- Our *senses* only inform us of the material world around us and thereby give us only fleeting glimpses of the Forms.
- Only the intellect or the soul can acquire genuine knowledge of what is eternal and unchanging by coming to know the Forms directly.
- This is achieved through reason and reflection as in mathematics and philosophical debate.

## Plato's Cave

- This distinction between the appearances of the material world and the reality of the realm of the forms is given most clearly by Plato's Allegory of the Cave (Republic 514A-520A).
- Plato likens people untutored in the Theory of Forms to prisoners chained in a cave, unable to turn their heads.

## The Cave



## Plato's Cave

- When the prisoners are released, they can turn their heads and see the real objects.
- Then they realize their error.
- We are in the same situation with regards to the Forms.
- The material world is the shadows and the real world is that of the Forms.
- The way to break free of our bonds is through the light of reason: using reflective understanding (the intellect) to grasp the Forms with our minds.

## Plato

- Here again we see the early tensions between rationalism and empiricism.
- Plato was clearly a rationalist.
- Experience is not enough to account for our knowledge of the world.
- The intellect is the true guide.
- This view is echoed in contemporary psychology in the cognitive science revolution.

## Plato

### Plato's Problem

- One of the principle arguments Chomsky uses to justify the existence of a language faculty and universal grammar is essentially Platonic.
- Poverty of Stimulus Argument: the linguistic inputs a child receives seem insufficient to account for the child's ability to acquire and use language.
- Chomsky refers to this as *Plato's Problem*.
- In order to *explain* linguist behaviour we have to suppose innate knowledge of language (universal grammar).
- In this sense, Chomsky is a rationalist.

## Plato

### Innate Knowledge

- Plato also believed knowledge to be largely innate.
- To understand this view we must first get clear about three things:
  - Plato's conception of the soul/mind
  - the immortality of the soul, and
  - the doctrine of recollection

## Plato

### Plato's Conception of the Mind/Soul

- Plato was the first to articulate a detailed theory of mind and its relation to the body.
- In the *Phaedo*, he defends a version of mind/body dualism.
- This is the view that the mind is in some way *nonphysical* or *immaterial*, and hence a different kind of substance than the body—that mind and body are distinct.
- Also believed that the soul was an animating principle (*psyche*)—that which brings life.

## Plato

- This view is developed in more detail in the *Republic*, where the soul is divided into three faculties.
- The soul and the body are held to be in a kind of opposition with one another.
- Cultivating the body hinders one's well being.
- One should pursue a life of understanding.
- The soul is the 'real' person, in contrast to the material body and the senses.

## Plato

- For Plato, the soul is the seat of reason: it is the rational part of us, with irrationality stemming from the body.
- The soul experiences different states of consciousness due to the influence of the body on the soul: the senses produce their corresponding sensations and bodily injury produces pain.
- For Plato the soul can only be seat of reason and knowledge if it is distinct from the body—recall the Allegory of the Cave.

## Plato

### Immortality of the Soul

- Plato believed that the soul was immortal.
- This becomes part of the foundation for his belief that knowledge is innate.
- For if the soul was not immortal then knowledge might be acquired.
- *The cyclical argument*: opposites come only to be from their opposites.

## Plato

- What comes to be larger only comes from being smaller...colder from hotter.
- Since being dead is the opposite of being alive, it follows that life and death come from one another—living things come from dead things and vice versa.
- But if this is true, and the soul is the source of life, then the soul must always exist somewhere.

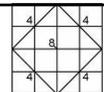
## Plato

### The Doctrine of Recollection

- The Doctrine of Recollection and the immortality of the soul are interdependent thesis.
- One argument for the immortality of the soul is based on the doctrine of recollection.
- What is the Doctrine of Recollection?



## Plato



- For Plato, learning was nothing but recollection: that knowledge of the universals is born within us and that we have merely forgotten it.
- This is the innate knowledge thesis.
- The best demonstration of this idea comes from the example of the slave-boy in the *Meno*.
- In this dialogue, Socrates aims to show Meno that a slave-boy, ignorant of geometry, already knows the Pythagorean theorem.



## Plato



- Socrates poses a geometric problem to the slave boy that requires the Pythagorean theorem to solve.
- By engaging in a *dialectic* with the slave-boy, Socrates leads the boy to the appropriate solution, supposedly without teaching him.
- This is taken as a demonstration that the knowledge was already in the slave-boy and that by engaging in a dialectic he was able to coax the knowledge out.

## Plato



- Moreover, this knowledge must have come from before birth, since the slave-boy could not have learned it!
- Hence, the soul must be immortal.
- The idea was that before birth soul is in contact with the Forms (exists in the realm of the Forms).
- This is how it comes to attain its knowledge.
- It is in this sense that knowledge is innate.

## Plato

- We see in Plato the beginnings of many modern ideas about the mind.
- Mind/body dualism.
- A theory of learning.
- A theory of memory.
- A theory of cognition.
- Anticipation of the nature/nurture debate.
- An early view of concepts/categorization.
- An early version of the tension between rationalism and empiricism—a view about the proper methodology for investigation.

## Next Class

- Aristotle and Aquinas.
- The beginning of the scientific revolution.