

THE GREEKS: PLATO & ARISTOTLE

10000 BC	<p>Babylonians / Egyptians show keen interest in geometry and algebra. Babylonians have a number system not based on 10s but on 60s but they can solve quadratic equations and know a bit about the movement of stars etc. The Egyptians use a more modern number system based on 10 and they also know about mathematical fractions and are interested in geometry (especially triangles and pyramids!) Some civilisations are wrestling with the idea of how to represent nothing (or zero.) The Babylonians have the notion of a space in their mathematics but the Greeks are even less sure about the concept of zero. (Interesting note: the concept of zero doesn't really get firmly established in maths for nearly a thousand years – around 690AD by Empress Wu of China and earlier in about 200/300AD in the Indian Sanskrit language (which is where we get modern numbers from). By 500AD zero is firmly established as a symbolic representation by the Indian mathematician Aryabhata.)</p>
400- 500BC	<p>Ancient Greece. Greek culture (or <i>Hellenic culture</i> if you want to look clever) starts around 8th century BC but reaches its peak in 4/5th century BC. One of the big events is the siege of Troy (Trojans vs Greeks) which is allegedly started by a feud over a woman, Helen of Troy: a sort of pub fight which gets very out of hand. There are also quite a few wars between the Greeks and the Persians (modern day Iran) because during this period the Greeks don't only enjoy fighting each other. But the Greeks are perhaps less warlike than the Romans who will follow them and they also enjoy a lot of art, plays, maths and thinking. Early mathematicians like Pythagoras are working on geometry and other mathematical problems while poets like Homer develop particular traditions of poetry, story-telling etc. Compared to today, it's a pretty weird society: people wander around in togas and it's pretty much encouraged for older men to have sexual relationships with young boys so long as they teach them a bit of philosophy or maths at the same time (<i>pederasty</i>) - weirdly, if the boy fucks the man in the ass then this is considered humiliating and was the source of many a giggle in Greek comedies but the other way around is absolutely fine and completely normal. Government involves city states (e.g. Athens) who occasionally go to war with each other so no one actually sees themselves as 'Greeks' although they are kind of united in fear/hatred of the Persians. Democracy originated in Ancient Greece – deriving from the Greek word <i>demos</i> (people) and <i>kratia</i> (power) – and the Greeks have fairly progressive ideas about self-government and many other social experiments although they still keep slaves which they don't see as a moral issue at all it seems. Religion was organised into often weird god/goddess cults e.g. there was cult around Dionysus (god of winemaking) and people would go to the mountains get massively fucked up and have big sex orgies, claiming they're trying to get in touch with something spiritual - yes, that old excuse! - and it was basically like a very early rave scene. The Spartans in the South are the most warlike of all the Greek cities/cultures and generally run things when it comes to fighting with the Persians. They are seriously aggressive fuckers and are so geared around warfare they consequently don't have much time for flowery Athenian activities like making nice pots, composing poetry, writing and watching plays, philosophising etc – the Spartans are just good at breaking things and killing people. Very good at it, in fact.</p> <p>Some major players in ancient Greece:</p>
700BC	<p>Homer writes <i>The Iliad</i> (700BC) which is a long poem about the hero, Odysseus, and his journey after the ten year siege of Troy. In a nutshell, our hero gets lost sailing his boat and has some fucking crazy adventures on the way home from the war. Nearly everyone in literature after Homer rips him off – in fact, you can even draw parallels between <i>Star Wars</i> and Homer's <i>Iliad</i>.</p>
400BC	<p>Socrates is arguably the first philosopher. Nothing he actually said is written down. Philosophy at this stage is an activity done in the street and Socrates gains a bit of a cult-following especially among the precocious, rebellious youths of Athens. Plato was one of these rebellious kids who learned from Socrates and would later write down what he claims Socrates said but it's important to realise that Socrates appears more like a 'character' in Plato's work and we don't know what he said directly. From what we can work out, it seems Socrates just really liked arguing, he likes arguing with people but he's the type of guy who could start an argument in an empty room.</p>

People who didn't like Socrates would probably say he twisted their words in the way people do when someone smarter points out annoying contradictions and paradoxes in what we think or believe. Socrates also defines what philosophy will talk about and how it's done. Think of him on the street and he likes to wind people up by asking them seemingly simple questions, getting them to answer those questions (the *Socratic Method*) and then pointing out inherent contradictions in what they're saying and making them look pretty fucking stupid. This pretty much does for Socrates as he pisses practically everyone off with his constant questioning of everything, especially as it appears he encourages the kiddies to question traditional Athenian values and think for themselves so eventually he is arrested on trumped-up charges of not recognising gods recognized by the Athenian state and for corrupting the youth of Athens. Socrates thinks this is all bullshit and drinks hemlock to kill himself in a final 'fuck you' to Athens and its citizens for not recognising his genius. (This story is told by Plato in *Phaedo*.)

Socrates as Plato presents him later has *dialogues* so Plato demonstrates the Socratic method on paper. These dialogues go back and forth between questioner and answerer and they aim to define what is really at issue – this process is known as the *dialectic method*. So a question might start as “What is justice?” Socrates is interested in lots of things: politics, ethics and logic. He also proposes the idea of a hypothesis which may be somehow provable by experiment of practice (an idea which will become integral to science later.) There is also an interesting debate in Ancient Greece about the whole notion of theory (*theoria*) and practice (*praxis*) and which is better or has priority: is it better to theorize something or just to do it and get good at it that way? Think of it like jazz: do we really need jazz theory – surely the jazz greats just learned by improvisation?

300BC

Plato was a student of Socrates and a pretty smart one. He begins to develop further what philosophy is: what subjects should it consider and how should philosophy investigate these subjects? He's learned the Socratic method of question/answer and the *dialectic* tradition of “what about xyz / yes but then the problem with that is...”. In the **Principle of Non-Contradiction** he also lays some early groundwork for logic by claiming a set of statements can't be true if they contradict each other. In this way Plato goes on to influence virtually everyone in philosophy after him. Unfortunately Plato is also a bit of a cunt and his influence is not *always* a good one but you still to admire him for his intelligence. For example, a key idea in Plato's metaphysics are his idea of perfect '**forms**': in this sense he believes in notions of absolute truth and he thinks that perfect forms exist in some kind of other transcendental dimension (“a place beyond heaven”) which we can't quite experience but they're definitely there and we somehow derive knowledge of the world from them. There's a famous analogy he gives of **prisoners in a cave** who are tied up and there's a fire behind them: the fire (an analogy for the actual perfect 'form') throws shadows against the cave walls which the prisoners see but they can't see the actual fire (the underlying reality). The prisoners watch the effects of the fire (e.g. shadows etc) without actually knowing its fire is causing it and they kind of construct *their* reality based on these effects. You could imagine the prisoners maybe thinking the shadows are gods or something and giving them names and they attribute meaning to this stuff. Plato thinks in the same way we can't *know* the forms but we kind of perceive reality as a phenomenon rooted in the forms just like these shadows. (This raises the question of how can he assert their existence at all if we can't really know them. How the fuck do *you* know about them then, Plato? Plato would argue they must exist because we see the effects of the forms so we know something must be causing these effects. This is the start of questions about *epistemology* or the study of what can be said to be truly known.) In his parable of the cave, one day the prisoners break free and realise the shadows were caused by the fire and realise their reality was not what they thought. In the same way, human consciousness is like the prisoners in the cave before they break free and we can never really understand the cause of things we perceive to be reality. (This is really a question about metaphysics – i.e. what constitutes reality – and we begin to understand metaphysics is linked with epistemology, the study of what can truly be known. There is reality and then there is 'our reality' which is based on what we can know - or think we we know - which in turn is based on what we can perceived through our senses and maybe what we can work out rationally by thinking.)

Plato's **forms** are attractive as he seems to be saying there are objective standards out there so there's a form of 'perfect good' or 'perfect beauty' but he also seems to be saying there's even a form of 'the perfect teaspoon' (you can see this begins to sound a bit suspect.) What scares Plato is the idea that there's no real good or bad or beautiful or ugly and it's all just relative to us and there's no way to arbitrate disagreements on these things. He's keen on the idea of an objective reality (*metaphysical realism*) but hedges his bets by saying we can't quite experience this world of 'forms' and only ever see the side-effect subjectively. You can perhaps see Plato's ideas here are slightly dangerous idea since the notion of there being an absolute truth or a set of absolute truths is what informs every lunatic from murderous monarchs to present day jihadis who join ISIS and lots of people will claim there is absolute truth and they have direct access to it (e.g. through the Koran or some other divine revelation or statements of supposed 'natural law' such as 'the world is flat' or 'white people are naturally superior to blacks.' Clearly, absolute truth is often really just thinly disguised bullshit.)

One of Plato's major contributions in political philosophy was *The Republic* which was an early treatise on what an ideal government would look like. He thinks his proposed republic would best model the perfect 'form' of justice (again we're back to perfect forms) which he takes to be “a state ordered with a view to the good of the whole”. You sense Plato is not that impressed with the way Ancient Greece generally governs itself and being a smart bloke thinks he could come up with a better system. He divides his proposed utopia into three classes: at the top are the philosopher kings chosen on grounds of intelligence who rule (what a surprise! So Plato thinks he should be running the show), guardians (army and police people who keep order and beat up people who break the rules or do things which detract from the 'general good') and tradesmen (the little people who run commerce and basically do all the practical heavy-lifting in society and don't sit around on their arses just thinking.) A key idea to Plato is that the state itself is bigger than any individual. So Plato is not, for example, big on the idea of minority rights or tolerating any dissenting views: he thinks he knows what's best for everyone (backing this up with reference to his slightly spurious notion of perfect forms) and everyone should just agree with him because he's a smart fucker. It's hardly surprising that many people argue that you can trace a link from Plato to Nazi Germany, Soviet Russia or Trump's America. The *tripartite soul* is another idea which pops up in *The Republic*. Plato *really* likes **threes**. Not only are there three classes of people but Plato think the soul of man can be divided into three parts (or motivations) and these are linked to the three types of person in his republican utopia: (1) Appetites (concerning producing and seeking pleasure – e.g. sex, food etc.) (2) the Logical, concerned with motivating direction through the love of truth and learning and (3) the Spirited, the bit of us which is concerned with obedience but also anger and defending things from disorder. You can see how it links to the various classes in his Republic: the Philosopher Kings love truth and all things logical, the army gets mad at bad guys and loves beating them up; the peasant-like trades people like getting pissed and fucking (when they're not doing all the actual grunt work to make the Republic function.)

384-
324BC

After Plato, **Aristotle** is one of the founding fathers of philosophy and was actually a student at Plato's Academy learning directly from the big daddy of philosophy himself. In truth, Aristotle is probably one of the smartest guys who has ever walked the planet and you also get a sense that he's not as grouchy and generally far less of a cunt than Plato (who was clearly an ego- and meglomaniac.) It is impossible to even summarise Aristotle's interests and areas of enquiry as they are simply too extensive but we will limit it to metaphysics and the natural world, ethics and virtue and logic. (Although Aristotle also has a lot of say about aesthetics and what he says about what makes good drama is as valid today in Hollywood as it was in the third century BC.) Later in life Aristotle was personal tutor to Alexander The Great who conquered the entire known world by his mid-twenties and who has made every man ever born since look like a massive underachiever. Also because Alexander's dad was a rich king, Aristotle had access to lots of scrolls and books which are this time were pretty difficult and fucking expensive to get your hands on. Nice work if you're smart enough to get it and Aristotle was the right man for the job.

Metaphysics – Aristotle sees the defects in Plato's spurious notions of perfect forms but agrees what we know about the world must ultimately be derived from our senses (touch, taste, sight, smell etc). This is what is known as *empiricism* and in another thousand years it will underpin the

start of a scientific revolution when people realise you can acquire knowledge by coming up with a hypothesis, testing that hypothesis through use of a scientific experiment, repeating it over and over (to ensure the first result wasn't just a fluke) and each time perceiving the results of that experiment to confirm or refute your hypothesis. In fact the roots of the term *empiricism* roughly comes from the Greek word for 'experiment'. (But more about science later.) Aristotle thinks all knowledge and, therefore, our knowledge of reality (metaphysics) is acquired through sensory perception – we're back to seeing how Aristotle's view of metaphysics are linked to his ideas about *epistemology* (i.e. what is knowable by us.) Aristotle does a lot of wandering around looking at animals, plants and insects, and today when he wasn't working he'd probably be glued to the Discovery Channel. From his studies of the natural world, Aristotle comes to the notion that nature is very ordered and that there's a kind of design to it; this idea which will later be used by Christians in 'the *argument from design*' (i.e. the world is too perfect to just have happened by chance and therefore must have been designed by some intelligent force such as an all-powerful God.) He develops his interest in nature into a theory of Natural Law that will later be taken up enthusiastically by the Catholic Church in the medieval period. Aristotle firmly believes that nature is neatly divided into categories (or *taxonomies*) e.g. male/female, birds/fish/reptiles etc and that there's a reason for it to be divided and ordered like this. (So today Aristotle would be very troubled, for example, by Cailtin Jenner and the concept that perhaps gender isn't neatly divided into a binary form of male/female.) This is because part of Aristotle's **Theory of Natural Law** is that there is always a *telos* (goal/purpose) in nature and this underpins his ethical theory too. For example, the Catholic Church still holds on to very Aristotelean ideas about natural law and it will say contraception is wrong because the *telos* of sex is procreation and creating babies and in using condoms or other forms of birth control we are breaking the link between the sex and babies and this is unnatural and therefore wrong because it goes against nature. Likewise, Aristotle would say the notion of 'good' is linked to a *telos*: so the *telos* of a knife is to cut things hence a good knife is a sharp knife that enables cutting. He extends this to the notion of a 'good life' in his discussion of virtue. The criticism of Aristotle's Natural Law theory is that nature isn't quite as neatly-divided as he thinks and we can't move from perceiving stuff to inferring a natural law since we can't directly perceive the *telos* but we can reason about it (intelligent guesswork basically.) It's a good theory and seems to make sense but in the 19th Century Darwin's theory of Evolution seems to refute a lot of Natural Law theory and says that things weren't invented in a perfect way but actually evolved and are constantly evolving in almost a chaotic way ('natural selection') and that what looks on the surface a very ordered world is not actually so neatly ordered when we look more closely.

All of this discussion raises an interesting question in *epistemology* about the difference between two kinds of truth: there are *analytic* truths which are truths that are true by definition (e.g. 'my husband is male' is true because being a man is part of the definition of being a husband as opposed to a wife, in the same way all mathematical truths such as $2+2=4$ are analytic since maths is really a set of rules or axioms from which such truths follow.) Analytic truths are often also known as *a priori* truths (which a fancy Latin form for saying they are true *prior* to us even trying to reason anything from them) but generally they're very restricted because they are true by definition or in philosophical jargon we say they are 'trivially true' or *tautologous*. In contrast to analytics truths, there are other truths which are based on observation and inference but as we will see this is a weaker claim to truth. Empiricism (which relies on knowing the world through perception) is about inferred truth. We see patterns in the world and think we can infer rules or laws of nature from this – this is called *inductive* reasoning. (Deductive reasoning is the opposite where we aim to find the truth by ruling out what can't be true and Sherlock Holmes did a lot this kind of reasoning.) The problem with inference and empirical 'truths' is that they aren't by their nature as strong as analytic truths because we might one day see a counter-example which undermines them. Think of it like this: the turkeys grow up having a nice life, being fed by the farmer and having a wander around the farm, they settle into this way of life after a few hundred days of this and over time they begin to infer that tomorrow will be just like yesterday (because this is the pattern they've begun to see) but unfortunately the turkeys don't know about Xmas and so one day the farmer comes to slaughter them and this causes massive panic for the turkeys because all their views that they had a nice, comfortable life are about to be falsified.

Another common example given is that of **The Black Swan**. Imagine we go out and we see swans and someone who has never seen a swan says “What is a swan?” and we answer it “It's a white bird that like to swim and it has a long neck etc” and list all all the properties we think accurately describes a swan. One day we see a bird that looks just like a swan but it's black. Is this a swan? We have a counter-example to our definition (our our supposed Law of Nature) of what a swan is and at this point we can go one of two ways: we either say this isn't a swan and it's something else, or we have to drop the part of our definition that says swans *necessarily* have to be white. The issue at the root of all this is that empiricism is only ever based on past observation/perceptions from which we *infer* laws (*inductive* reasoning) but, just like the turkeys, we're never quite sure that law really holds because there's always the possibility we might encounter an exception (or counter-instance) to the rule and if a rule has even one rare exception or counter-instance then it's not really a rule we can rely on or we have to redefine the rule to fit the new evidence. This means empiricism is useful but always a little bit shaky: just because the sun rose yesterday, we can't know it will rise tomorrow. We'll discuss this more later when considering logical positivism and the verification principle which crops up more than two thousand years later.

Our previous discussion on empirical truth is very relevant to Aristotle's view on *metaphysics* (or what reality is really composed of.) Aristotle takes some inspiration from Plato's idea of forms concerning what kind of property of set of properties make up a particular thing. As we have seen, Plato connected substance with his idea of perfect forms and that these forms are what underpin reality. He thinks the forms really exist somewhere and this claim about things existing is called an *ontological claim* (i.e he's making a claim about these things really existing in reality). Let's introduce a few more new concepts.

- Firstly, the notion of **identity**. In philosophy the notion of identity is more like the mathematical equals function – in metaphysics the question is ‘What does it mean for something to be the *same* as itself?’ or ‘If x and y are identical then makes the identical and what conditions must hold?’
- From this we get the idea of **necessity** – so, for example, it is necessary for a husband to be a man. (As we've seen this is an *analytic* truth: it's part of what the definition of a husband is that we are referring to a male; if they were female they would be a wife but is a swan always *necessarily* white?)
- But with necessity we also get the notion of **sufficiency**: is the fact someone is a man *sufficient* to call them a husband? No, they also need to be married. So it is **necessary and sufficient** to identify a husband as a man who is married. Does a husband need to be married to a woman? These days perhaps not. Could a husband be married to an animal such as horse? Possibly not (although it's question begging in itself) but when we use the word ‘husband’ we *at least* mean that the person we are referring to (or *designating* to use a fancy term from logic) is a man and that he is in some form of relationship which could be understood as marriage.
- So now we have key logical concepts of *identity* (what it means for something to equal something else), notions of *necessity* but not *sufficiency* and now we'll introduce another concept: **contingency**. If something is contingent then it just happens to be this case; so it is a contingent fact about the world that Donald Trump is president of the United States because it's possible to imagine a world (another reality) in which Hilary won the election. Contingency can be thought of as the opposite of *necessity*: it's not necessary to our definition of the world that Donald Trump has be president of the United States. These are going to be useful concepts when we try to delve into metaphysics and understand Aristotle's concept of essences.

Essences to Aristotle are the property or set of properties that make a thing that thing. And these are qualities/attributes/properties that are necessary for that thing to be itself. (The notion of essences gets taken up later in the 20th century and linked to our empiricism and the way we perceive the world. The philosopher Quine calls them ‘qualia’ but in a sense he's very close to Aristotle's notion of essences and he has a lovely phrase to explain what essences/qualia are and that is “the thingness of the thing.”) Confused? Think about it like this.. what is it about Beyonce

that makes her Beyonce? What is our concept of Beyonceness? Beyonce herself is obviously a unique human being although it's at least possible in the future we could clone her DNA and make another genetically identical Beyonce. But would this Beyonce be the same as our Beyonce? What is the quality of Beyonce-ness that makes Beyonce Beyonce? We seem to know this but we can't quite put our finger on it: it's not just her voice because others could sing almost identically to Beyonce, it's not her clothing because someone could wear the same clothes etc So what is this thing 'Beyonceness'? What is it about Beyonce that makes her so? Interestingly, the philosopher John Locke takes up these ideas about identity and essence, focusing on what we've just thought about ('personal identity') in his "*An Essay Concerning Human Understanding*" (written much later in 1689) – Locke understands most of what we think that we as people are identical with our bodies but this is clearly not true. If my finger gets cut off then my body is not the same as it was before it got cut off but because we've got different bodies doesn't mean I'm now a different person? You could keep cutting bits off your body (toes, feet, legs etc) and, assuming you're still alive, at what point are you no longer the same person? (Note: this idea of taking an objection to an idea and pushing it further and further to undermine an argument is called a *reduction ad absurdum* as we are reducing the original argument to an absurdity.) People who suffer from frontal lobe injuries to the brain though can appear to be 'different people' (i.e they behave and react in very different ways to before) so this is the opposite of the case: they may on the surface look identical but when the old 'person' we knew is no longer there and it seems someone else is there.

Let's get back to Aristotle. As we've seen, Aristotle knew about forms from Plato. (For Plato, goodness, beauty, unity, largeness, justice etc are all perfect forms which exist somewhere beyond our reach.) Aristotle wants to make a distinction between the form itself – it's not even clear Aristotle thinks there are really such things as forms - and the *essence* of something which is what actually *defines* that thing. So in Plato the emphasis is on the form and "is-ness" (an ontological claim) but with Aristotle it's more on "ish-ness" (e.g. a fool vs foolishness – what is it that makes someone foolish? What defines it?) Since Christianity will borrow heavily from Aristotle, the term *essence* is also linked to the idea of the soul which Christians think is the essence of being human – in this way, humans are different from, say, animals or rocks because humans have souls and this is the *essence* of what it means to be a human being. You may also begin to see some loose connections between the *essence* of something and its *telos* (purpose) – the ideas are not quite the same but they're closely related by the concept of *necessity*.

Aristotle's **ethics** are in his work entitled *Nicomachean Ethics* (this might be because his dad was called Nichomachus and he thought his dad was a good bloke?) Philosophy pre-Socrates was very theoretical but Aristotle thinks philosophy can also answer practical questions and one of the big ones is: **what is the good life?** Aristotle starts by again taking a *teleological* approach and asking what is the highest good for humans and he answers this with the term **eudaimonia** (a Greek word which roughly translates as happiness, contentedness or well-being) but he sees this very much as not a state of being but a way of acting in the world. He relates **eudaimonia** to the soul and thinks that the person who acts in such a way is a 'serious' (spoudaios) human being (as opposed to someone who lives a vacuous life of partying and looking at Instagram a lot.) In this respect, he thinks the starting point for living a virtuous life is based in rationality or **reason** (logos) as this is also what it means to be human (we begin to see for Aristotle *reason* is perhaps the essential *essence* of what it means to be human and Immanuel Kant will later build on this idea in the 18th Century in his moral philosophy.)

In practical terms, rather than trying to boil the good life down to just one thing (reductive) the Greeks (including Aristotle) tended to think in terms of *virtues* (e.g. just, brave etc). The advantage of thinking in this way is the recognition that goodness springs from different (and sometimes competing) sources (non-reductive). In the 20th century there has been a revived interest in *virtue theory*. Because goodness is rooted in action then Aristotle thinks good habits or *actions* foster *good character* and this in turn ups our chance of happiness/contentedness (*eudaimonia*). (Note: Aristotle distinguishes habits which are engrained in us from actions which require conscious choice and therefore reasoning.)

Aristotle asks: what kind of people or behaviour should we praise? As discussed, Aristotle thinks there are a few virtues but people who exhibit all of them are: (1) people of “great soul”; (2) good rulers who are just and fair and have to use practical judgement a lot – think of King Solomon in the Bible; (3) people who can be good friends. Aristotle thinks people who exhibit all these are 'noble' (perhaps more translated into a 'gentleman' these days.) Aristotle looks for a commonality in what all noble people would agree is a good – again, he recognises there might be disagreement – but he concludes *every* virtuous/noble person would agree that the highest virtue is not itself practical but the ability to contemplate situations wisely and draw virtuous conclusions (*theoria*) and we could call this 'moral reasoning' (so again we see morality being linked to our ability to reason and be rational which is intrinsic to us as human beings at their best and perhaps what separates us from animals.) A good way to think about Aristotle's ethics is like this: (i) at the lowest level, humans can behave like animals and constantly just react to very basic feelings like anger, hurt and rejection; (ii) at the next level, a more 'noble' human may have such feelings but not act on them in the moment and weigh his actions and responses to situations logically using *reason* trying to work out what is the best and most virtuous course of action; (iii) at the highest level, the virtuous man try to work of rules or laws of behaviour and a wise king or ruler, for instance, would perhaps try to enshrine these systematically in a set of laws (e.g. the legal system, the declaration of human rights or the constitution of the United States) so that it would encourage everyone to act virtuously and justly punish people who did not act virtuously.

Aristotle has a lot more to say on ethics and we have only outlined his thought but we will deal with one final idea before moving on: ***Doctrine of the Mean***. The word here mean does not imply being nasty but is more like the mathematical term 'mean' (meaning arithmetic average.) In mathematics, if you think of a bell curve (which is a graphical representation of a probability function) then the mean is right in the middle where the curve peaks – this peak represents the average or *most frequently* occurring event or thing (e.g. an average height for a man.) In a nutshell, in the Doctrine of the Mean we find Aristotle advising us away from extremities. He thinks extreme behaviour is unlikely to lead to **eudaimonia** (contentedness/happiness) and that *moderation* is the answer (like the phrase 'everything in moderation'.) This is linked to his idea about the virtuous man indulging in *rational* behaviour. This doesn't mean Aristotle is a party-pooper, Aristotle would say even excess is okay so long as it's excess *in moderation*. Likewise, Aristotle would say a life of complete self-denial and living like a monk is possibly equally bad because that's just the flip side of the coin and this like is equally unlikely to make someone happy. In conclusion, in *Nichomachean Ethics* we see Aristotle setting out an ethical philosophy which is both practical and theoretical.

We'll touch on final thing important legacy of Aristotle and this is in the area of ***logic and language***. Before discussing Aristotle let's consider this area more generally. Broadly speaking, logic and language are very interconnected. There is an interesting debate in philosophy, linguistics and neuroscience whether language is somehow hard-wired in us. The philosopher, Noam Chomsky, for instance had an early theory (which he himself no longer supports) that maybe there is a *deep grammar* in all languages which mirrors an inner 'language of thought' in our minds/brains. Could we think or *reason* about the world without language? We don't know for sure but it seems unlikely. Babies certainly have feelings (e.g. hurt, pain, anger) but do they *really* think or merely react to the world? It certainly seems we'd be very restricted in our thinking without language because we couldn't discuss anything in the world with each other. So language is a tool we somehow (and quite incredibly) developed to communicate our thoughts and feelings but language is also a sort of prison we can't break out of: we sometimes what to articulate really deep feelings of awe, loss, or love and we're very constricted by the words to know to explain this. For instance, if we only knew the word 'nice' to explain that we liked something then we'd maybe describe a McDonalds hamburger as 'nice' but also a gourmet meal as 'nice' or the feeling of falling in deeply in love with someone as 'nice' which would not be very useful. Sometimes even language can't convey a thought or a feeling and this is perhaps where art, poetry etc. come into play and try to convey something beyond our linguistic repertoire. So how did language even happen because it's certainly the most incredible human invention (even better than the iPhone)? We started with a pictorial language (e.g. cave painting and Egyptian hieroglyphics) but at some point we introduced sounds and letters for them and made words and somehow came to a

communal agreement on this. Words and symbols probably just started off as names for things (nouns) but then we found that restrictive so we also want to add descriptions to things (adjectives). Then we wanted to describe actions (verbs) and explain who was doing the actions and to what/whom (pronouns, subjects etc). Finally, we had to explain the concept of time in how we were explaining these actions – was the action happening now or the in the past or will it happen in the future so we needed *tenses* (e.g. past tense, present tense)? Lots of different languages in the world evolved and many share common structures (even though they developed in isolation from each other) which does seem to indicate something may be hard-wired in our brains or that we at least share a common way of perceiving the world. But there are equally examples we would find baffling: there is a tribe in the Amazon jungle whose language only has one tense (present) and they have no concepts of past and future. How do they explain things which happened in the past or things which might happen in the future? They can't and this seems very confusing to us because this is a major component in how we reason about the world.

Getting back to Aristotle, let's first consider Plato's contribution to logic. Plato's **Principle of Non-Contradiction** claims two statements (or a set of statements) can't both be true if they contradict each other. Let's look at an example: (1) the ruler of England is a Queen; (2) Queen Elizabeth II is the ruler of England; (3) A Queen is a ruler who is a woman; (iv) Queen Elizabeth II is a man. We see that these statements are interconnected defining who is the ruler of England, what a queen definition of a queen is etc. *But* there is a contradiction here because the last statement – which we happen to know to be false – contradicts the third. (Actually, to make things really explicit we may need to add another statement to say 'A man is NOT a woman.') Of course, this looks trivial because we know the fourth statement is wrong but often in the real world – for example, when programming a computer – the result depends on the logic/rules being consistent and when there's inconsistency we'll get the wrong result - in programming terms we call this a 'bug' - and it may actually be quite tricky to work out where the logic is wrong.

Aristotle goes further than logic only being useful because we can find out contradictions and, therefore, know certain things *aren't* true. Aristotle thinks we can learn things **deductively** using logic (i.e. we can deduce knowledge and not only infer it empirically) and work out things which *are* true. His method for doing this is to use what he calls a **syllogism**. Think about a syllogism like this: we can combine true statements about the world to form interesting new statements which also must be true. We do this through the combination of a general statement ('the major premise') and a specific statement ('the minor premise') and a conclusion is deduced. For example, knowing that (1) all men are mortal (major premise) and that (2) Socrates is a man (minor premise), we may validly conclude (3) Socrates is a mortal. We combine the first two statements to reach a third and this is called **semantic entailment** (which means we have entailed a conclusion through *semantics* or 'by definition'.) At this point, you're probably thinking 'Big deal?!' but actually it is a big deal because in this way Aristotle thinks we can use reason and logic as building blocks and each little block can then be used to make a bigger block. Aristotle hadn't even thought about computers at this stage as no-one is going to even consider the idea of manipulating logic using machines for more than two thousand years, but Aristotle is at least showing that by using reason and logic we can possibly learn new things about the world and that is a big deal and beyond just saying things are contradictory (Plato) !

The syllogism also crops up in Aristotle's *Theory of Action* which we'll briefly touch on. In this theory Aristotle is trying to answer why people do the things they do. He is also interested in the Greek notion of *akrasia* or weakness of will. Why do people do things even they say they don't want to do them and he relates his theory to the syllogism. So for an action to take place, the actor must have a desire and a belief. Let's consider the smoker who wants to quit

- (a) John has a *belief* that smoking will lead to an early death
- (b) John has a *desire* to live a full life (i.e. not die an early death)
- (c) John will stop smoking

If John doesn't stop smoking then Aristotle thinks one of the other premises can't really hold. So John doesn't truly *believe* smoking will lead to an early death (he's possibly living in a state of

self-delusion, believing lung cancer won't happen to him) or he doesn't really *desire* to live a full life (possibly because he enjoys smoking too much and thinks a life of not smoking is just undesirable.) Of course, we could talk about addiction here and addiction is a generally a state where the addict is just reacting to feelings in order to use and therefore is not acting *rationally*. So Aristotle theory of action is also predicated on the actor being in a state where they can choose and act *rationally*. Kant will later draw upon these ideas of the 'rational agent' and it becomes a discussion about what the *necessary and sufficient* conditions for being a rational agent are. Such considerations are (a) does someone need to be educated to at least a basic level? (b) does someone need to live in an environment where they are guaranteed some level of security, sustenance etc.? (c) does someone need to live in a society where rules are applied fairly and consistently? There may be many more things which need to be met before someone can be considered a 'rational agent'. But the point is this: possibly without these basic needs being met then none of us can really think and act rationally and we can't expect truly ethical behaviour from someone who doesn't have these needs met.

One final word about the syllogism. Whilst Aristotle's syllogism looks like a useful tool and puts in place a very early and important basis for philosophers to build up a more complex *propositional logic* which will be used almost like a mathematical language to reason about the world, we also have to realise that the simplicity of the syllogism can lead us to reasoning which is bogus and to make all sorts of errors called *logical fallacies*. Let's look at one such logical fallacy which is based on the syllogism and looks like semantic entailment but is actually an error and this is called *The Masked Man Fallacy* and it goes something like this: (1) I do not know who my father is; (2) I do not know who the masked man is; (3) Therefore, the masked man is my father. This seems are correct use of the syllogism on the surface but clearly it's not true. 'Not knowing' is not really a property that we can use as the basis of an *identity* relationship – in other words, it is not a necessary and sufficient condition of being my father than I don't know him/it because there are many things or people I don't know but that doesn't make them my father.

That's enough about Plato and Aristotle for now but if you want to read more then look here: <https://plato.stanford.edu/entries/aristotle-metaphysics/>