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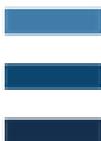
# Wrestling with the Truth

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**NEXT**  
**LEVEL**  
**CLIMATE**  
**THINKING**  
**AND**  
**ACTION**

# The Teacher's Guide

**CLIMAT**   
**ACADEMY** 

#jingle#

## Chapter Two

# Wrestling with the truth

## The Original Teachers

Socrates



Here is the godfather of Western Philosophy.

Here is one of history's most famous teachers: Socrates.

It is 399BC. He is about to die.

In his right hand he is accepting the cup of hemlock from his executioner. Socrates was a citizen of Athens who spent his days asking people questions about why they thought certain things, why they did certain things. He was trying to get to the bottom of it all. Apart from being pig-ugly, unwashed and unkempt, his problem was that too many people did not enjoy being asked probing questions about the status quo.

So, after several years of hauling prominent Athenian leaders through embarrassingly difficult questions, the Athenian democracy had a vote.

They voted for his death.

The master painter, Jacques-Louis David has captured the moment. The hemlock in the chalice will shortly start to work its paralysing effect through Socrates' body, from his toes upwards.

With his left hand, Socrates is pointing to the truth. Cynics would say that an was an exhibitionist, arrogant and stubborn. Socrates did not just take on public figures. His questions about truth and reality could interrupt any Athenian sat in the Agora, even if they were about to bite into a feta cheese sandwich. He was widely seen as a very irritating 'horsefly', buzzing around the state.

However, David, by giving the 71 year old the torso of an Olympian athlete, is telling us something else. His painting is underlining Socrates' courage and dignity.<sup>1</sup> Whatever we might think about his eccentricities, Socrates' total commitment to the truth, no matter what the cost, was remarkable. Indeed, this iconic image of him is a reminder of many important things: open handed dialogue, a willingness to examine your fundamental assumptions, and an unwavering commitment to the *polis* (the civic community).

What direction is Socrates pointing in? The answer is upwards.

This is not a direction that a democracy is always good at looking in. Or as the recent film reminds us, "Don't Look Up!".

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<sup>1</sup> Art History students might want to ask a cynical question of Jean-Jacques David the painter. He was genius, but his loyalty to the truth rather depended upon which side of the French Revolution was writing it.

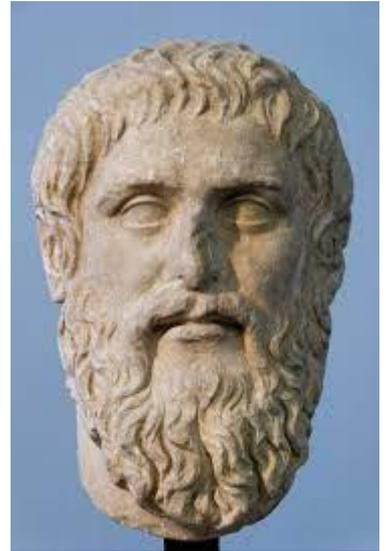
## Plato

Somewhere in the frame of this tragic scene is Socrates' student:

Plato.

We might think of Plato (b. 427BC) as an ancient, blank-eyed stone bust. A remote Philosopher with nothing to tell us. But Plato lived this moment. He watched his teacher, close friend and hero get deleted by the unthinking, populist vote. He observed the state squash the voice of dissent. He saw how dull and blunt thinking can so easily override nuance and complexity.

Plato had been tutored by Socrates to have a profound respect for the truth and for the virtues of courage and openness, and this moment of execution would have been desperately difficult for the young man to take. David will have placed Plato somewhere into this dreadful scene, and he left it up to our imagination to identify which of the distressed men around Socrates he is.



With only a small zoom out, we can see that this was not the first trauma that Plato had suffered.

Athens had lost their prolonged war with the Spartans just 5 years before (431-404BC). As Thucydides emphatically and solemnly concludes in his *"History"* of the conflict: "They were beaten at all points and altogether; all that they suffered was great; they were destroyed, as the saying is, with a total destruction, their fleet, their army—everything was destroyed, and few out of many returned home."<sup>2</sup>

The victorious Spartans imposed *'The Thirty Tyrants'* on the Athenians. This was a short lived, but brutally oppressive regime that executed around 1,500 citizens without trial<sup>3</sup>, chased out the key democrats and plundered the city of its wealth.

The loss to Sparta was catastrophic. Moreover, it happened when they were in the middle of a truly gilded age, arguably unparalleled in human history before or since. The Athenian culture was so advanced at so many levels. The *'Golden Age of Athens'* (484-404BC) was an absolutely astonishing segment of history in which technological, social, cultural and political aspects of human life all bounded forward together: Architecture, Sculpture, Philosophy, Theatre, Literature, Naval power...

And perhaps most significantly: Democracy.

### From Ancient to Modern

This is the point at which we can all connect with Plato.

This is not just the moment when history can speak to us, it is a vital moment in which we *must* allow history to speak to us.

The death of Socrates and the war with Sparta – they were both decided upon by a democracy that was acting on pride and desires. In both cases, reason had been pushed disastrously to the side. There is no need to speak out in a general defence of democracy here – its value has been

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<sup>2</sup> Thucydides, *"History of the Peloponnesian War"*, Book 6.

<sup>3</sup> Nails, Debra. *"The People of Plato: A Prosopography of Plato and Other Socratics"*. Hackett Publishing, 2002.

established through centuries of political progress. Indeed, the Climate Academy works in close partnership with News Decoder, an organization dedicated to quality journalism and the values of democratic life.

However, it is important to remain honest about democracies inherent weaknesses. There are just some things that it is vulnerable to – and part of being genuinely democratic is an openness and an honesty to admit those weaknesses. Plato was sharply aware of how democracies can malfunction. The trial of Socrates and the war with Sparta were two formative moments in Plato's life, and they triggered him to question the fundamentals of the world around him. When he looked beyond the surface of all the cultural progress and pride, he identified some alarming truths about the status quo.

He also saw something powerful and beautiful, and he dedicated the rest of his life to the defence of reason and justice.

For any young person today who looks out at the democratic world and sees truth suppressed for profits, or justice sidelined by vulgar populism, then your anxieties and frustrations would have been clearly understood by Plato.

The modern world's inability to get any kind of grip on climate change is such a bewildering puzzle for a young student to wrap their heads around. It presents such a mismatch between our technological power and our commitments to human rights. The whole situation is a jarring clash of stupidity in the midst of remarkable scientific progress.

Indeed, every successful empire struggles to see the signals of its own demise. The failings of any regime are often hidden just underneath the surface of their greatest assets. As the Greeks understood so well, our greatest strengths are also, paradoxically, also our greatest weaknesses.

The loss to Sparta was against all expectations. The Athenians were so cultured and technologically advanced it was *inconceivable* that they could lose everything. Their heroic values, their political and cultural achievements gave no hint about the disaster that was just around the corner.

We know from Plato's surviving personal letters that these traumatic events in his early life had a profound impact on him. In his famous "Seventh Letter" Plato reveals the nausea he felt, "as I looked at these things and saw everything taking any course at all, with no direction or management, I ended up feeling dizzy..." (325e).

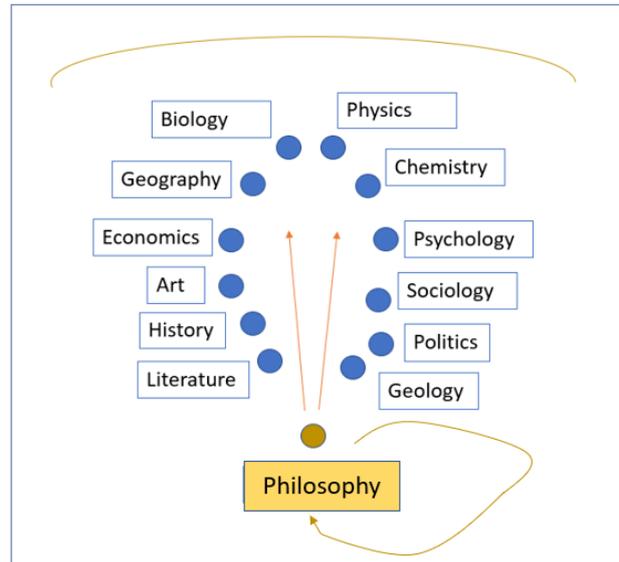
## Overturing Common Sense

There was another reason I was in Durham in 1991.

I was 17, and visiting the Theology and Philosophy university departments to weigh up different options for my own studies. The seat in “The Upper Room” that made it possible to pull together all the different details of the sculpture could be understood to represent many different things. As I sat there, surrounded by different plates and cups from a biblical scene, my first thoughts were Theological. However, my second thoughts were of Philosophy.

Philosophy is widely known as the “Queen of the Sciences”. For good reason. It can examine itself, but it also offers a 360° view of reality - one that includes every other field of enquiry.

It is for this reason that it is a compulsory core component in the European School system for every teenager who wants to graduate. Likewise, the Theory of Knowledge is a compulsory course of the International Baccalaureate.



But let's be honest, Philosophy has got a bit of an image problem. Before students start this compulsory course they do not really see why it should be on their timetables. Indeed, when I am in a bar, or out on holiday and I get asked what my job is, I normally try and get away with the general answer, “a teacher”.

If I am pressed further, the more detailed answer “a Philosophy teacher” mostly prompts a shy reaction, either because the person is not quite sure what it is, or knows what it is and feels a bit intimidated. Either way, it is not the best situation for either of us. It has also sometimes triggered great further conversations. However, once I did get completely stuck when the person in the bank who was taking my details answered with a sudden burst of enthusiasm, “Oh Philosophy! I really love that. I think dinosaurs are just fascinating.”

Subjects come and go in popularity.

For example, the most funky subject of the 19<sup>th</sup> century was Geology. It was so in vogue that one of the most chic weekend hobbies of Victorian England's upper class was to travel to beaches or to known inland sites, to collect fossils - as a sociable compliment to all the reading and lectures that they would attend about the subject in their spare time. A weekend get-away like that might seem a bit odd now. Lectures on Geology don't get many hits on YouTube anymore.

However, when the age of the Earth (and the universe) has just expanded from being just a few thousand years old to a few billion<sup>4</sup>, that *really* triggers the imagination. Hunting for dinosaur bones and trilobite remains was like indulging yourself in the most extraordinary kind of time travel.

Now one of the key motivations for studying Geology has (hopefully) gone – namely, the skill of identifying where fossil fuels are hidden in the Earth’s crust. And it could be the moment for Philosophy to recover its funky status. Of course, that might sound like a long shot; it is a subject that is famous for being heavily abstract and aloof.

But there might be some surprising truths just around the corner. Philosophy could soon get its swagger back because it is so good at overturning common sense. It is a subject that has never lost its relevance, but right now we need to flip open our understanding of what is going on just underneath the surface of our culture and economy. We need something that has the capacity to illuminate the contours of the climate crisis in far sharper contrasts.

For the moment, there are far too many people who do not see the climate crisis in its true dimensions. And this is something that is *not* put right inside schools. A major reset is needed in the way in which we approach sustainable education. The current situation is rather like how the discovery of the first dinosaur bones happened. Robert Plot, an Oxford Professor, published his work, “Natural History of Oxford-shire” (1677) in which he describes the discovery of a massive bone, “I have one dug out of a quarry in the Parish of Cornwell... that has exactly the Figure of the lowermost part of the Thigh-Bone of a Man or at least of some other Animal”.<sup>5</sup>

The word he was looking for was ‘Megalosaurus’, but because he was living around 200 years before we came to understand the “deep time” of the Earth, not only did he not have the vocabulary, he did not even have the conceptual framework to understand what he was looking at. “The learned Dr Plot” (as he was known), toyed with the idea that it could have been an imported elephant bone from Roman times, but finally settled on the idea that it must have just been a massive human being.

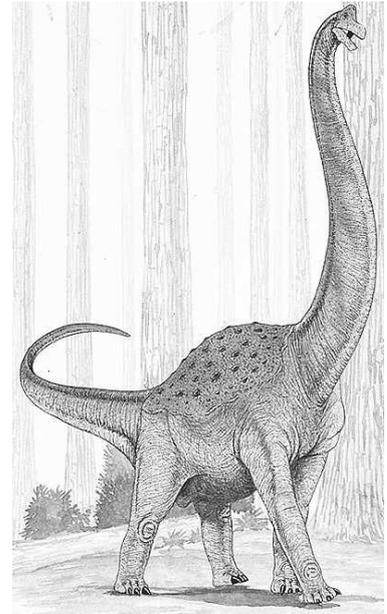
Gulp.

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<sup>4</sup> Until the definitive work of Charles Lyell, “Principles of Geology” (1830-3) it was commonly understood that the Earth was created at around 6pm on October 22<sup>nd</sup> in 4004BC – after the genealogical calculations of Bishop Ussher who had added up the different generations of people in the Bible back to Adam and Eve. The length of “deep time” went from ‘millions’ in the 19<sup>th</sup> century to ‘billions’ at the start of the 20<sup>th</sup> century with the discovery of radiometric dating. We now understand the Earth to be 4.53bn to 4.58bn years old.

<sup>5</sup> (Plot, 1677, p. 132).

In fact the first scientifically recorded example of a dinosaur bone is that of a *Megalosaurus*, by the fossil hunter William Buckland in 1824. But even he could not really see the true dimensions of what he was describing, he thought it belong to a more ancient type of giant lizard. The word “dinosaur” and the whole magical world of understanding that goes with it only became real with the work of Sir Richard Owen. He coined the word dinosaur in 1842, a word that literally means “terrible lizard” from the Greek “δεινός” (*deinos*, "terrible, powerful, wondrous"). What that singular word does is embody the recognition of an entirely distinct form of life, in a fundamentally different world.



A whole alternative reality had existed on Earth, it had been forgotten. Yet, now through the determination and imagination of scientists, it had jumped back into life. Suddenly, a utterly different domain opened up. Things had been profoundly different, and such a shocking reality brought back into existence, not only a whole park of Jurassic creatures from the past, but also a entirely different set of vocabulary and a radically different way to look at the Planet.

Boom.

When I walked into “The Upper Room” in 1991 I was not expecting to be so startled by how everything could fit together. When I walked into the lecture room in 2011 I was not expecting to get such an amazing new perspective on all the ‘green’ issues I knew. There is something so powerful about finding a new perspective on reality and yourself. It is wonderful to discover a fresh, transformative perspective that opens up new depths on the world around you.

When Victorian men and women walked in Devon and Oxford, they were exploring the astonishing new realities of the Devonian Period<sup>6</sup> and Oxfordian Age<sup>7</sup>. They had to come to terms with life forms and timeframes that were dizzyingly novel. When young people walk into the Climate Academy they are exploring the breathtaking truths of another geological period, The Anthropocene. They will have to wrap their heads around some spectacular graphs, data and projections about future biomes.

The “deep time” eons, eras, periods and epochs of the past seems outrageously odd to us now. And for those who have seen the near future, of a possible “hothouse” Earth that has been sketched out in different climate scenarios, it also seems utterly outrageous. With climate change, in the absence of fossilized remains of the past, we need the help of metaphors and the 4D thinking of something like Philosophy to help us.

### **From Pelorosauruses to Philosophers**

The label “Philosophy” does sound a bit odd or off-putting. It perhaps conjures up lines of difficult text, lines of dusty old books, or the lines of a tweed jacket (with elbow pads) worn by an aging professor. However, when handled properly, Philosophy has the power to fling a student into entirely different orbits of thoughts and actions. Like taking a tour of a dinosaur museum or reading

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<sup>6</sup> The Devonian Period spanned 60.3 million years, from 419.2 million years ago (Mya) to 358.9 Mya

<sup>7</sup> The Oxfordian Age was the earliest of the Late Jurassic Epoch, it ran between 163.5 ± 4 Ma and 157.3 ± 4 Ma.

a book about the Anthropocene, Philosophy has a magical power to overturn the status quo and provoke a radically new way of looking at things.

However, it is crucial to underline that although Philosophy deals in ideas and words, the results of engaging in it could not be more real. Philosophy is really not just some whacked out spacewalk into distant realms.

Think of all the progress and social security that have been made possible because of the concept of "Rights". It is just a word, but that word, crafted and developed through the history of Philosophy, has had a profound material impact on our lives. Likewise, the scientific revolution that was triggered in the 17<sup>th</sup> century and which flowed into the industrial revolution of the 19<sup>th</sup> century, can be credited to the deep cultural surgery done by thinkers such as Descartes. Indeed, if we go all the way back to the last major Renaissance, conceived in Florence in the 15<sup>th</sup> century, what do we find at the source? The discovery and translation of the works of Plato by Ficino.

The details really do not matter here. This is not a Philosophy textbook. The point is admit that Philosophy trades in ideas, but it is from major breakthroughs in the mind that the deepest transformations of the world come. It is from the most creative conceptual fights with reality that most practical conclusions follow.

Our willingness to be imaginative now has never been more crucial. In the past, the progress we made in science and technology functioned to enhance our living standards. Now, our capacity to understand the strange new world above our heads, unprecedented in 4 million years, is an existential one. Our ability to grasp the key implications of the Physics and Biology of these facts is now a matter of survival for billions of people. How compatible this Earth will be to human civilization in 2100 will depend entirely on how deeply, how differently, we are prepared to look at the present reality now.

Crucially, it is not just our capacity to imagine the science that is important. The particular challenge of thinking through the Anthropocene is that everything is so interlinked. Much of the CO<sub>2</sub> emitted by a container ship leaving China could be attributed to the bulk purchase of laptops by a modern European school that imagines a paperless school is environmentally friendly. The wonderful gift of a gold ring carries with it a host of beautiful meanings, but also a heavy carbon footprint. The small comfort of a burger for someone who has just worked so hard on a hospital night shift contains within it a release of CH<sub>4</sub> just a few steps further back in the food chain. And as a young activist enthusiastically jumps into an old car with his friends to get to a climate march, there is a trace of N<sub>2</sub>O left behind on the drive of his parents who don't approve of what he is doing.

We need the help to see everything clearly, in its complexity and in its interconnectedness.

It is a fantastic challenge. We will either have a beautiful renaissance, in which we were willing to change the infrastructure of our minds and hearts. A renaissance that envisioned us to revolutionise the infrastructure of our economies. Or, quite simply, we will be confronted by the awesome forces of nature that will move like a wrecking ball through all of our cultural and social achievements so far.

The Anthropocene is here, and we urgently need to find the best place to look at it. We need wise guidance to find the right seat.

Philosophy has a reputation for being a subject for absent minded people, for star gazers, and for idealists. The truth is that Philosophy has the power to open up a clear view of the present and its ideals and ideas are arrived at by the most attentive and astute kind of realism.

## The Original Academy

There is a reason for the name, “Climate Academy”.

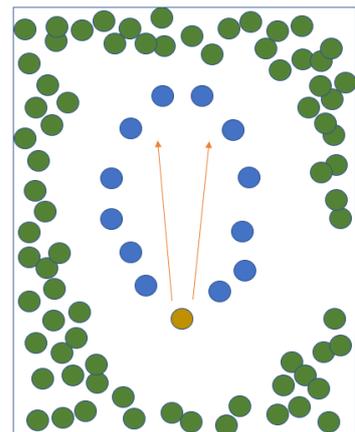
The first word speaks for itself. We are in the middle of an acute emergency, the current sixth mass extinction event is most evidently apparent in the climate crisis. It goes without saying that students in the Climate Academy will not be learning about Descartes, Kant or Hegel, Rationalism or Transcendental Idealism.

They will be learning the details of what *genuine* Sustainable Development looks like.

The second word, ‘Academy’ signals that there is serious academic work to be done. We know a profound crisis is here because of the emphatic conclusions of mainstream, hard science.

However, there is a deeper layer of meaning beyond these two points.

The ‘Academy’ was the world’s first ever university. It was founded in Athens by the Philosopher, Plato, in 387BC. The word Academy comes from the suburb in the north west of Athens, *Academia*, where it was housed. In fact, in a rather nice parallel with the metaphor of “The Upper Room” it was located amongst the trees of an extensive olive grove.



Plato’s Academy was open to everyone and, like this programme, it was free.<sup>8</sup> What he offered was a radically different kind of education. The Academy was a place with a uncompromising dedication to the truth. It deserves the greatest respect as the place which inaugurated an educational tradition which scrutinised the self, society and the world with such probity.

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<sup>8</sup> In reality most of the attendants were almost certainly upper class men, and sometimes (notably) women.

As far as Plato was concerned, Athens had been suffering from an acute case of truth decay. There were plenty of people and places that could teach you how to win an argument with savvy skills like rhetoric<sup>9</sup>, but the Academy was the only place that was exclusively concerned with the truth, and all its virtuous side-effects. Philosophy literally means, “love of wisdom”. It was a place of learning with a deep commitment to values and justice. It was a space committed to understanding public, not private concerns.<sup>10</sup>

Yet, despite the profound impact that Plato’s Academy had on Western civilization, his educational project was probably viewed by many Athenians at the time as rather superfluous. Indeed, with human nature what it is, they considered it to be a bit idealistic, much like how many view Philosophy today.

## The New Academy

### From the deep hole to the deeply holistic

Although the Academy covered all the different subjects we learn today – from Literature and Science, to Geometry and Maths,<sup>11</sup> the overarching goal was to get to a place of understanding that was truly systemic. Students were there to search for the universal truths in the particular details.

It is this understanding of the whole which is our most dangerous blind spot today.

Schools today reflect our atomized society. We have deep social silos and deep academic silos. We desperately need to connect everything up, both at a social level and in terms of getting a clear academic view of the whole.

Given that we are in the middle of only the 6<sup>th</sup> mass extinction event in the 4.54bn ( $\pm 0.04$ ) year history of the planet, can we really call the children in our schools educated if they do not have a clear view of it? Can any national government think it is doing a good job if this clear space to see the crisis is not provided?

It is true that we have millions of green initiatives, projects, plans, ideas and proposals. It is true that there are bits of climate education inside Geography, Biology and Ethics lessons. But where is the clear view of how it all fits together? What do all these things add up to? Like in society, schools only offer an extremely confusing and cluttered space of various environmental dangers and proposals.

For the moment, for any student wanting a clear, informed view of the state we are in they would have to chase around these fragmentary bits like they would have to chase around an empty packet of crisps in a windy school yard. Our society is flooded with millions of individual green actions, inspired by different particular details of the environmental problems. It is all maddeningly inefficient and ineffective.

We have a duty of care to bring them to a clear understanding that is truly *systemic*.

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<sup>9</sup> These private tutors were known as “Sophists”.

<sup>10</sup> The gap between public and private interests was clearly demarcated in ancient Athenian society. When citizens came to vote in the Assembly they would do so as public citizens, something explicitly and sharply defined in contrast to the private affairs of his estate. See “Arendt Tackles Climate Change” for a fuller exploration of this.

<sup>11</sup> This is the ideal syllabus proposed in Plato’s ‘*Republic*’ (c375BC), most famously detailed in the ‘Simile of the Divided Line’.

Indeed, the word “School” comes from Greek. It literally means free space<sup>12</sup>. As educators we have a unique opportunity to simply be concerned with the truth, where else in modern society is there such a clear public space? If we don’t provide this space for young people to understand the crisis, who will?

The compact student textbook of the Climate Academy makes the big picture clear. It declutters the chaotic mass of information available on the crisis and opens up a distinct, well-defined area. Like the trees of the “Upper Room” (1998), each important pillar of the crisis is put in its rightful place. Each one of the 14 chapters stands alone as an independent 20 minute read (or podcast), but they all line up to form a complete and coherent view of the situation.

Again, like in the tree sculpture, each independent chapter has key details that demand particular attention. Some students might want to take a sustained view of these specifics, depending on whatever spikes their interests. This can be done either in the earliest chapters on the hard science, or in the later chapters on the social realities. However, it will always be clear where the seat with the most informative view is. With this secure understanding of the macro image, they can enjoy their freedom to explore the micro details.

Finally, the Climate Academy is a hybrid learning space. Just as Plato needed Socrates, and Aristotle needed Plato (and so on) everyone needs an inspiring teacher to bring them to this safe area. In fact, the word “Education” literally means to lead out.<sup>13</sup> A key principle of the Academy is that it works best with a small group of highly motivated students who then, in turn, have the understanding and vision to lead their peers and wider community into a similar empowering place. (And so on)

## Conclusion

### Where to put an Academy?

An olive grove on the outskirts of ancient Athens must have been such an alluring place to establish a school. The smells and tranquility of the Academia area would have been in sharp contrast to the buzz and bustle of the places where Socrates hung out – the markets of the Agora, and the edgy cosmopolitan, harbour district of the Piraeus. Who knows what options were available to Plato when he was deciding on his location. In the end, Plato planted his Academy in a space for reflection rather than planting it in the middle of the markets and monuments.

After Michael Wadleigh toasted my brain in 2011, he agreed to spend a day in my school with a small group of students. Alongside Birgit van Munster (the co-founder of the *Homo Sapiens* Foundation), he took them through the key graphs and analysis. By the end of the sessions, there were another 12 toasted brains.

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<sup>12</sup> “This is from Greek *skholē* "spare time, leisure, rest, ease; idleness; that in which leisure is employed; learned discussion;" also "a place for lectures, school;" originally "a holding back, a keeping clear," from *skhein* "to get" (from PIE root *\*segh-* "to hold") + *-olē* by analogy with *bolē* "a throw," *stolē* "outfit," etc.” (from The Online Etymology Dictionary).

<sup>13</sup> “Education” literally means “to lead out” (from the Latin, ‘*e*’, “out of”; and ‘*dūcere*’, “to lead, to guide, to drive”).

This was the first meeting of a Climate Academy. Throughout the rest of the year we met during lunchtimes to chew over some of the details of the systemic content and to think through the best ways to take the Academy further.

A core question was: where do we put this Academy?

In many respects, the choice was similar to that of Plato. We could continue meeting during lunchtimes, on the fringes of school life, but given the fundamental importance of the content we were holding, this did not seem right. However, where could we possibly fit inside a busy timetable of courses that are buzzing with their own details and demands already?

Knowing the best place to put the Academy was a riddle that it took 10 years to resolve. This riddle is symbolic of the problem that faces sustainable development in any economy: Either it is treated as something separate, as something alternative and fringe – in this case it can be dismissed as a niche interest, something optional for those who happen to like the natural world and buy bio-apples in the supermarket. Or bits of the crisis are treated as a part of another subject – in which case it enjoys academic status, but it is never the core, defining content. And when students have to deal with this fragmentary approach, everything is so splintered it somehow becomes easy to miss the fact that we are all living under the shadow of an existential crisis.

So where to put the Academy? In the olive grove of Academia, or in the city of everyday life? Detached, with the space for reflection, or engaged, with all the distractions of the world to deal with?

There have been a few moments where I have been tempted to put my efforts into syllabus reform. I was asked a few times to help do an audit of the school curriculums. This might have appealed to a teaching instinct that wants to get a proper map of things, pin down clear attainment goals and lay out well defined content. However, despite this attraction, if I am honest, the principal reason that I resisted these invitations was because the timescales were just too short. If we *really do* take the mainstream science conclusions about the carbon budget seriously, then the years it takes to survey, draft, finalise, train, implement and monitor syllabus reforms are just far too slow. Tectonically slow, compared to the dynamic change required.

(A brief moment of perspective: students aged 12 in school are on track to inherit a world committed to 1.5°C before they graduate. Any student in primary school will be very fortunate to escape a planet that is locked in to a 2°C rise when they walk out of the school gates for the last time<sup>14</sup>.)

However, speed is not the only problem. There are two further problems. Firstly, the content would always be an appendix squeezed into already dense syllabi, and easily considered as an extra burden for both teachers and students. There is unquestionably a need to train teachers of all the different subjects about the systemic aspects and framing of the issue. For example, a chemistry teacher might well teach with dynamism about the reactions involved in solar cell technology, a biology teacher might expose the diverse dangers of deforestation, a physics teacher might illuminate the details of carbon capture mechanisms... and so on.

However, could the chemistry teacher frame the current capacity of solar technology within the energy sector? Would they be able to visualise for the students what advances in investment and

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<sup>14</sup> These figures are based on the science explained in Chapter 7. Most importantly, they do not include huge assumptions about negative emissions from (so far) imaginary technology; nor do they include any 'overshoot' of the targets, with the hope of drawing down greenhouse gas concentrations back under the line later.

capacity would be required to have a fighting chance of staying inside the carbon budget for 2°C? Would they be able to offer informed answers to questions about the monumental level of resource extractions that are required for humanity to shift to green energy solutions? Would it be fair to expect a chemistry teacher to provide insights into the complex trade and diplomacy talks that will be required to rapidly upscale the production of batteries and solar panels?<sup>15</sup> How many chemistry teachers understand that the '*Energy Transition*' is a total misnomer? It *never* happened, and that the pathways forward indicate that all current commitments to green energy sources will only be enough to cover the *extra* energy demands that our booming consumption and population patterns will create. These commitments will not reduce our emissions, and even if it did effect some kind of minor transition, it would be no where close to the speed required to displace fossil fuels.

And a similar set of wider questions could follow on from a study of deforestation for the Biology teacher, or from a couple of lessons on carbon capture technology for the Physics teacher.

It is immediately obvious that, very few subject teachers could handle the systemic questions that their specialisms are plugged into. Not unless they had made the effort themselves to get informed about such things. It is also clear that if the questions started to diverge too far from the core topics and content of the course, no subject specialist teacher would have the time to indulge such wider questions - especially not with older students who have such demanding curriculum to fulfil in the last years of their high school study.

Therefore, even if a school could point to different bits of 'climate change education', a bit of solar panels here, a bit of deforestation there, and a dabble into climate awareness in sociology, would we dare to call our students informed? At what point do the students get to see everything systemically? At what point are the systemic fundamentals put on display for them? When is this deadly, hidden sub-plot to the whole of human civilization afforded the chance to be properly seen, scrutinized and responded to?

Our education systems were conceived in the 19<sup>th</sup> century, they are just not set up to handle this crisis.

Let's not kid ourselves. The sustainability crisis is of such proportions in depth and scope, it deserves its own space, it needs its own space. We cannot pretend that the crisis can be dealt with by accommodating it into the status quo – just look at the graphs. We have been fiddling around with the same model of growth for centuries and it has only led to an acceleration of greenhouse gases emissions. There has been no deep regeneration of our economic infrastructures to tackle the crisis, and our centuries old paradigm of education is certainly part of this outdated infrastructure.

This failure is not an easy fact to accept. Especially because schools are such wonderful places for so many other reasons. It is a highly disruptive truth. Facing it, involves dealing with loss.<sup>16</sup> We can stand at a distance and applaud Socrates for asking difficult questions of the status quo of his ancient

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<sup>15</sup> For Europe (almost no natural resources and little manufacturing capacity), China (some resources and huge manufacturing capacity) and the various African states such as The Democratic Republic of the Congo (huge resources, little manufacturing capacity)

[https://www.ted.com/talks/olivia\\_lazard\\_the\\_blind\\_spots\\_of\\_the\\_green\\_energy\\_transition](https://www.ted.com/talks/olivia_lazard_the_blind_spots_of_the_green_energy_transition)

<sup>16</sup> In fact, to look at the situation we are in, to allow ourselves to see this failure is nothing less than a confrontation with mortality. Our discomfort in this sense could be understood as the 'deep-end' of a psychological struggle that starts at the 'shallow-end' as FOMO (a Fear Of Missing Out).

time – but are we not just a little bit too proud of our culture and progress to allow the painful questions to hit us?

### **In Academia**

In the end, the Climate Academy was built in an olive grove, like Plato's.

The climate crisis requires schools and governments to put the data and the problems in clear sight. If students are not given this seat to sit in, even if it is only briefly, then we cannot expect them to understand why the language about climate change is so extreme. If students are not provided with clarity about the key dimensions of the crisis, every green project, or gesture towards climate change in a subject is just a dispiriting reminder of something sinister lurking in the shadows.

Syllabus reform is too slow and too messy. Our young people have a Right to Know what is going on. The Climate Academy model proposes that the best way to do this is to take a few students away from the hustle and bustle of the curriculum for a short time every week – bring them to a safe and calm space where they can study the essential components of the systemic problem. From there, from the shade of the olive grove above the city, they can see things in their proper context and in their true dimensions.

When they are 'back in town' they will be able to ask the right questions, they will be able to indulge their interest in particular areas of research, knowing that they can restore their understanding of the whole by returning to the Academy. This approach might sound elitist, just as the word 'academia' now has the vibes of being aloof. However, this is categorically not the case for the following reasons:

- The most effective way to bring this knowledge to the whole school is by super-charging a few students with a burst of knowledge and energy that they can then disseminate through projects, events and activities throughout the learning community.
- Not every student is interested or willing to invest more than the normal school time in finding out more about the crisis, whereas a few students in every school are bursting to do more.
- The textbook and all the understanding in there is available to any teacher, student, parent or school governor to read. (Indeed, the Academy is designed so that any company, organization, youth club, etc could establish their own Academy in a small olive grove in the week.)

Who knows, maybe 'Sustainability' will finally get its place on the curriculum, alongside all the other subjects considered worthy of students' time? But there is no time to wait for those slow reforms. Many students on the streets of climate protests are chanting, "What do we want? Climate Justice. When do we want it? ... Now."

They want the chance to wrestle with the truth. They want to ask the big, difficult questions about the status quo. The founders of modern education: Socrates on the streets, and Plato in his Academy would certainly affirm such a demand.

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And so finally, after two chapters of orientation, the rest of this book follows on in a predictable direction: Chapter 3 sustains a view of this **Systems Understanding** as the first pillar of the Climate Academy. Chapter 4 explores the **Green Competences** required to grasp and mobilise this knowledge. Chapter 5 zooms in on the activity and values that operate when the systems understanding is 'brought to town', through the second pillar of **Civic Service**. And finally, Chapter 6 examines the skills and impact of **Systems Entrepreneurship**.

