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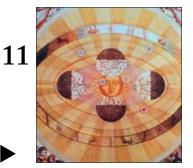
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### **Editorial**

### Many cultures, one humanity

A few years ago, I watched the documentary *Babies* by Thomas Balmes. It follows the first year of the lives of four babies from Mongolia, Japan, California and Namibia. The film does not contain any narration, it just lets the images speak for themselves, presenting the huge contrast that exists between these four cultures. It is amazing to see how, in just one year, these four babies had utterly different experiences of life on this planet, which would, no doubt, greatly influence the way they were going to understand the world and live in it.

We are all conditioned by our cultural upbringing and our culture influences us more than we might think. According to the American anthropologist Ruth Benedict: "The crucial differences which distinguish human societies and human beings are not biological. They are cultural." Our cultural environment conveys to us what is right, acceptable, hygienic, normal, dangerous, safe, good manners, etc. It develops our tastes, it shapes our opinions, decides what we learn and what we don't learn, it impacts on our value system and influences the way we think, feel and act.

Our cultural conditioning is what we know, and we usually don't question it much. Our culture is our point of reference of how things are done in the 'right way'. It is quite human to think that the way we learnt something is best and other ways of doing something are therefore often judged unfavourably. But herein lies a huge potential for misunderstandings and conflicts. As the film *Babies* transmits so well: there is not only one way of giving birth, bringing up children, keeping them safe, etc. There are many ways of doing something, and all of them have a logic and a reason behind them.

What applies to different cultural norms, also applies to history. We tend to judge the past by our present standards and think that this is

the right thing to do. However, as the memorable first line of L.P.Hartley's novel *The Go-Between* succinctly puts it: "The past is a foreign country; they do things differently there."

So, what attitude should we adopt in front of something that is very different and often grates with our own norms? How can we still have a sense of 'right and wrong' – our own moral compass, which is so important! – and yet not become judgemental? I think a good starting point would be to acknowledge that it is indeed a very difficult task to reconcile differences, and also to accept that it will actually require a real effort from ourselves.

We will all need to develop a deep and authentic sense of Self that does not feel threatened by difference. We will all need to learn to think for ourselves so that we can look at differences with fresh and unbiased eyes. We will all need to increase our capacity to love. And we will all need to remember that the vast majority of our differences are 'accidents of birth', i.e. if we had been born in different circumstances, we would live and think very differently.

These are all difficult things to achieve, and the question arises: what could possibly help us to make this effort? Maybe there are two motivations: one being sheer necessity, seeing that our world is getting ever smaller and that there is less space to 'live and let live'. The other one is perhaps the idealistic hope inherent in our souls that is expressed in the words of Schiller's Ode to Joy, which has become immortalized in Beethoven's Ninth Symphony: Thy magic power re-unites / all that custom has divided, / all men become brothers / under the sway of thy gentle wings.

I am convinced that, one day, we will all realize that we are part of the same humanity, and that we have always been united beyond our racial, sexual, cultural, religious, social and other differences.

Sabine Leitner

## The Theory of Platonic Forms and the Most Beautiful

The theory of Forms or Ideas is a piece of a larger puzzle that can help us to understand how we have come from singularity to multiplicity, yet still retain a connection with the One, how this world is created and ultimately what is reality. To truly understand one piece of a puzzle we have to look at the whole picture.

In the Platonic view, the last stage in the chain of manifested reality is matter. Philosophically examining what matter is, the Platonists concluded that it is an empty receptive substance which, as such, we would not be able to see in its pure state. Our mind can only perceive something that has a form, as it works through images and needs something stable to fix itself upon. But the stability that we are seeking is truth, independent of our mind. It would be a terrible experience if everything that we see kept changing without retaining some essence. Even despite knowing that the physical form is undergoing constant change, there is still something essential that underlies it. It might seem obvious to say it, but deep below the surface there is a truth which points to the being behind the physical form, to the essence behind the appearance.



How does matter receive the form? In the enfoldment of divine goodness, the Demiurge (creator god) was assigned to create the Kosmos, an ordered universe which would express eternity in the manifested world of time. Hence Plato in the Timaeus says that time is a moving image of eternity. The creative process of the Demiurge is contemplation and what arises through the process are his 'thoughts' or Forms. They are the real beings existing at the lower extremity of eternal order. He directs his 'thoughts' or logoi so that matter receives



their shapes and forms the universe. According to the Orphic tradition, in order to create a manifested universe the Demiurge had to swallow Phanes, a cosmic model, a paradigm of intelligible order where all the Forms already pre-existed in a more compressed form.

As Forms are in the intellectual order they can only be accessed by intellect. This is why the Platonic Forms have such a great importance within the philosophical endeavour. To understand the nature of things and reality, the mind has to access the

Forms through its most sophisticated tool, the intellectual power within the soul. Of course, if we didn't have the images of Forms within the soul already, we wouldn't be able to recognise them even if we tried to access them. This is why 'seeing' the Forms would happen only when we are 'looking' inside, when the soul is contemplating itself. Here it is worth emphasising that the soul possesses only the images of Forms, like a memory, and that we don't carry the Forms themselves within us. The soul would obtain these images when being in a pristine state following the procession of Gods in the celestial sphere, as described in Plato's Phaedrus.

How would it be to actually see the Forms themselves? The Neoplatonist philosopher Plotinus spoke of Forms being translucent, full of light, and all in all, meaning that each Form has its own essence, but they are all connected in a whole. Seeing one Form would mean seeing all. This sight would be overwhelmingly beautiful, a blissful state if we were blessed to experience it. There are other mystics, yogis and saints who would also give an account of their sudden vision and their enlightened state of being by having the divine sight, because the luminous light in the Forms comes from the divine realm.

When the Demiurge created the Kosmos, he also made souls, so that the universe would be filled with life and the goodness of the Gods would be distributed. It is also said that the Demiurge filled human souls with Eros or love, which is a convertive power, seeking to return back to its source, to the divine abode. We can find this theme repeated in many great stories: Psyche longing for Cupid, Radha for Krishna, Rumi for Shams, etc. When this fire of love awakens, its desire for beauty burns us completely, we are divinely intoxicated, and just a little touch can open the soul's wings and take us back to the eternal realm. Such is the power of love seeking the beauty of divine effulgence, and the most beautiful of all is the intellectual paradigm, Phanes, showing forth its splendid divine light.

Miha Kosir

# Artificial Intelligence or the Return of Orwell's "Big Brother"

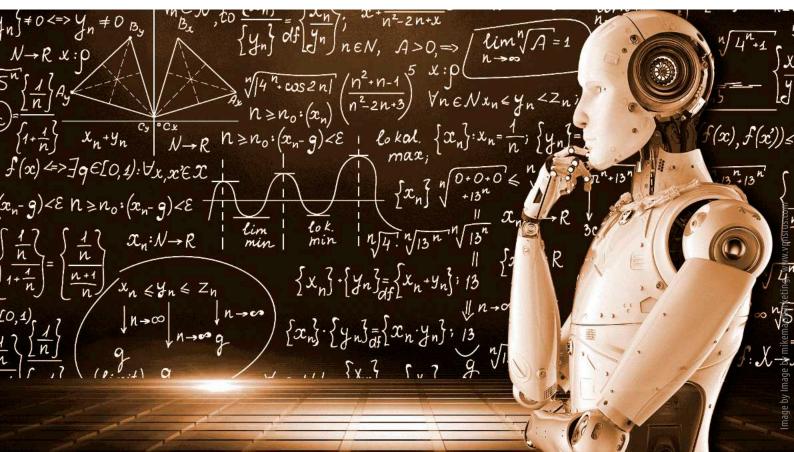
George Orwell's 1949 dystopian novel "Nineteen Eighty-Four" signalled the dangers of totalitarianism due to the repressive regimentation of people's behaviour and the loss of individual freedom. Today, ubiquitous Artificial Intelligence (AI) powered CCTV cameras trace our movements in virtually all of the world's cities<sup>1</sup>. So, is the world experiencing a return of Orwell's "Big Brother"? First, what is Artificial Intelligence (AI) versus Machine Learning (ML)? What are the advantages

1. London had the most CCTV surveillance cameras with 68.4 per 1000 habitants in 2019; Paris was 9th in Europe with 3.1 per 1000 habitants. See "Europe's 10 most Surveilled Cities", https://www.worldatlas.com.

of AI and are they counteracted by its dangers, due to the monopoly over "Big Data" and the glaring lack of international and government regulations and controls?

### What is "Artificial Intelligence" (AI)

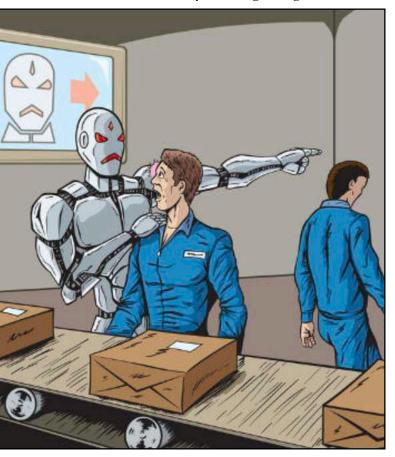
AI is a computer science that creates systems that mimic human intelligence. AI is made up of two words: "Artificial" and "Intelligence". It is thus a technology that creates and simulates "human intelligence". AI systems are not necessarily preprogrammed, but based on intelligent algorithms (e.g. a + b/y = c). AI is currently used in apps such



as Siri (Apple's assistant), Google's AlphaGo, and in games such as "Go" or chess (when IBM's deep Blue beat Garry Kasparov in 1997).

### Machine Learning (ML) vs Artificial Intelligence (AI):

- ML is a subset of AI that allows a machine to learn from past data without prior programming.
- Its goal is for machines to learn from data to give accurate results. ML has *limited scope* and performs only specific programmed tasks.
- ML's applications include online recommendation systems, e.g. Google search



algorithms, Facebook automatic friends tagging suggestions, etc.

- By contrast, **AI** is a technology which enables machines to simulate human behaviour.
- AI's goal is to create smart human-like systems that solve problems and perform human-like tasks.
- AI has wide scope to create intelligent systems for complex tasks and to maximise success.

• Current AI applications include, apart from those already cited above, customer support call systems, Expert Systems (emulating human expertise) and intelligent humanoid robotics<sup>2</sup>.

### In summary, AI is:

- A branch of computer science that creates intelligent machines that behave, think and make human-like decisions.
- AI is present when a machine obtains human skills including learning, reasoning and problem solving.
- AI machines do not need to be preprogramed as their algorithms have their own intelligence; for the better, and also for the worse!

### AI's advantages

Its main advantages are the liberation of workers from many simple (and some complex) "repetitive tasks" that lead to distraction, boredom and error. AI boosts workers' efficiency, improves work-flow, increases productivity, reduces human error, raises the profitability of repetitive tasks (e.g. billing statements) and protects workers' health in dangerous tasks. AI also improves decisions through more and better data. It can clearly destroy jobs, but also creates new ones – requiring new job skills and training. What the exact balance is between job destruction and creation is an open debate.

### AI's risks

The advantages of AI are important – but these may pale in comparison to the risks of invasion of individual privacy and freedom of thought. Hence, Stephen Hawking (late Nobel Prize-winning physicist) stated that AI's impact could be cataclysmic unless it is strictly and ethically controlled and that "AI could be the worst event in the history of our civilization." Indeed, Kai-fu Lee

<sup>2.</sup> Humanoid robots are designed to look like humans for intuitive collaboration, see https://www.asme.org/topics-resources/content/10-humanoid-robots-of-2020.

<sup>3.</sup> See Mike Douglas, "7 Dangerous Risks of Artificial intelligence, AI has been hailed as revolutionary and world-changing, but it has its drawbacks", 28/7/21. https://builtin.com/artificial-intelligence/risks-of-artificial-intelligence.

argues that AI will replace virtually all activities that require more than 5 seconds of reflection – leading to huge losses of routine jobs while creating strong demands for highly skilled ones. This will exacerbate already large income inequalities, within and between countries, raising social tensions as rising profit shares of national income become increasingly concentrated.<sup>4</sup>

The risks of unchecked, unregulated AI are notably:

- Automation-driven job losses
- · Privacy violation
- Deep fakes
- Algorithmic bias via bad data
- Socioeconomic inequality
- · Market volatility
- Weapons automatization

### The Invasion of privacy and tax havens

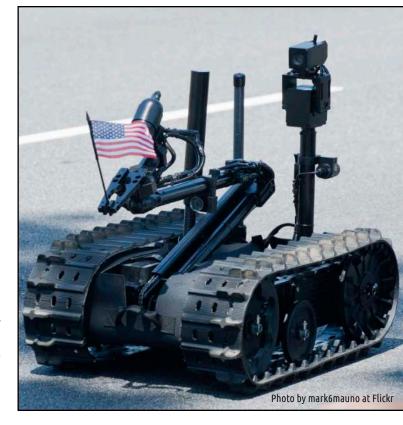
Governments and the public should be much more worried about AI in an increasingly digitalised world. Indeed, we don't really know who runs AI and what the rules are, if any! Big Tech's GAFA (Google (Alphabet), Amazon, Facebook (Meta) and Apple) clearly write their own rules (e.g. by using tax havens and loopholes<sup>5</sup>). The dilemma is that Big Tech has created something that it doesn't fully understand or control. Worse, it has a virtual monopoly over access to data – and those who control "Big Data" have unprecedented influence over our lives.

### Facebook is repeatedly hacked

In April 2021, Facebook, which owns and operates Instagram, WhatsApp and Messenger, admitted that 533 million of its (2.89 billion) users' personal data were lifted sometime before August 2019, and made available in a public database<sup>6</sup>! Facebook

This incident followed a \$5 bn. settlement in 2019 with the U.S. FTC for violation of its agreement to protect user privacy. Worse, in December 2021, 50,000 Facebook users may have been spied upon by private surveillance firms; those believed to have been targeted were notified. Seven "surveillancefor-hire" companies that carried out these illicit operations were banned from Meta's platforms<sup>7</sup>.

(now called Meta) will not notify affected users.



And adding to Meta's woes, Frances Haugen (former Facebook data scientist), testifying before Congress, accused Facebook of hiding its awareness of abusive harm of some teens from Instagram and being dishonest in its fight against hate and misinformation. She also filed a complaint alleging that Facebook's own research shows that it amplifies hate, misinformation and political unrest, but hides what it knows<sup>8</sup>. In short, Facebook is a minefield for user confidentiality and protection of

<sup>4.</sup> See Kai-fu Lee, What's next for Artificial Intelligence? Oct. 17, 2021, Gzero.

<sup>5.</sup> France will require online technology companies to pay a new "digital tax" on their 2020 earnings, breaking a truce with Washington over long-running conflicts over tax evasion; see France 24 https://www.france24.com.

<sup>6.</sup>The data included phone numbers (sensitive as "universal identifiers), names, locations, e-mail addresses and user profiles. See <a href="https://www.npr.org/2021/04/09">https://www.npr.org/2021/04/09</a>.

<sup>7.</sup> Action was taken against Cobwebs Technology, Cognyte, Black cube, Blue Hawk CI, BellTroX, Cytrox and an unknown Chinese entity. See <a href="https://www.upi.com/Top\_News/US/2021/12/17">https://www.upi.com/Top\_News/US/2021/12/17</a>.

<sup>8.</sup>These accusations were supported by thousands of pages of internal research documents. See <a href="https://accesswdun.com/article/2021/10/1044247">https://accesswdun.com/article/2021/10/1044247</a>.



the socially vulnerable – that consistently chooses "profit over user's safety and confidentiality". Other GAFA members are also facing increasing scrutiny with fines and proposed antitrust actions that could include fines of up to 15% of annual revenues<sup>9</sup>.

### AI in courtrooms and daily life

AI is also increasingly being used in assessing reoffending, as a small percentage of the population is typically responsible for a majority of crimes. However, the judicial algorithms used are often not tested on specific sub-groups, and minorities are treated as a single entity; hence their accuracy is not verified with regard to the relevant population. This bias may lead to continuing discrimination against minorities, thus perpetuating their second-class status<sup>10</sup>. In France, similar concerns were raised with the introduction of "Datajust" in courtrooms in 2020<sup>11</sup>.

Indeed, the same concerns over discriminatory algorithms hold for a range of other activities.

In summary, the issues above concerning AI are relevant not only to the Justice system, social media, health care, education, and corporate governance, but also to a range of other fields, such as the risks from "automated weapon systems" and the dominance of algorithmic trading on stock markets. In conclusion, as Eric Schmidt (former Google CEO) put it, "we need to control AI before it controls us". We need to debate how we live with AI before the tech gets so fast, so smart that it can decide things that affect us all – before we even know we had a choice!

James Chan-Lee

Hence, applications for bank loans, life and health insurance and mortgages are systematically subject to algorithmic screening, with unfair results. Given these biases, there is growing use of "anonymous CVs" and auditions for orchestras behind curtains, etc. – to ensure objectivity.

<sup>9.</sup> Google was given a €2.42 bn. fine in 2017, upheld by EU courts in 2021, for competition abuse for its Google Shopping product comparison search service.

<sup>10.</sup> See Alina Glaubitz, "All Rise: Judicial Algorithms in the Courtroom", June 2020, https://thepolitic.org.

<sup>11.</sup> See Vie Publique, « L'Intelligence artificielle (IA) dans les décisions de Justice : une révolution en cours. https://www.vie-publique.fr.

## Astrology in the Renaissance

The European Renaissance was a period in history in which important philosophical ideas and teachings derived from antiquity witnessed a rebirth. In this period of eclecticism and creativity in which many ancient ideas were re-formulated the human being took centre stage. Thus a sentiment of 'rebirth of the human spirit' took form within various disciplines: the arts, science, politics, philosophy, religion and also esotericism<sup>1</sup>.

The study and practice of astrology, in particular, helped to forge this new 'spirit', especially in the rediscovery of Neoplatonic and Hermetic philosophy. Astrology in the Renaissance became capable of providing explanations for the birth, growth and decline of the material world. The celestial realm (of the Zodiac and the Planets) provided a link in the Great Chain of Being, acting as an intermediary between the Platonic world of Ideas and the world of phenomena composed of the four elements (Fire, Air, Water and Earth). Astrology also provided a vision of an ordered and ensouled Cosmos, where spiritual correspondences

The study of esoteric disciplines like alchemy, astrology, magic etc.



united all things in existence. The unmovable and well-constructed harmony of the Zodiac and the perfect symmetry of the seven planets with the sun at its centre, helped to bring a sense of existential security and confidence to Renaissance man.

Thanks to this encompassing astrological vision, the *humanism* of the Renaissance gave birth to a new kind of individualism which saw cosmopolitanism as its highest expression. The individual believed himself to be at home in the entire universe. To this universal world-view corresponded the astrological universalism which penetrated all fields of knowledge and human life so that the human being could feel integrated into the universe. Here we also find the concept of *Homo Universalis*, the polymath, such as Leonardo da Vinci.

Astrological teachings helped to answer philosophical and existential questions in the field of politics, art, religion, medicine, agriculture, to name a few. Above all, astrologers were regarded as experts in matters concerning daily life. They provided pre-natal advice, served as matchmakers and marriage advisers. They informed clients where to look for stolen objects or alerted them to the sudden appearance of thieves. Physicians cast horoscopes to identify the causes of illnesses. Astrological considerations determined the nature and timing of treatments, the selection of drugs and the use of charms. Astrologers also acted as investment counsellors to bankers and tradesmen and advised kings and princes on their political or military campaigns.

The aesthetic quality of astrological principles and concepts inspired especially the field of art. Planetary symbolism abounded in the visual arts, in architecture and landscape design. Zodiacal constellations decorated the halls of popes and princes. On festive occasions processions of chariots carrying planetary gods moved through the streets. Modern theatre buildings had a round form to imitate images of the heavens. For instance, plays at the Globe Theatre in London were performed

2. Poetry that instructs, either in terms of morals or by providing knowledge

under a huge zodiac. The aesthetic value of astrology could also be found in many literary works and in didactic poetry<sup>2</sup>.

In the Renaissance, thanks to the widespread use of the astrological almanac, ordinary people had access to weather forecasts and to information concerning farming: the best time to plough, plant, harvest or fell timber. Its influence was so great that in the mid-seventeenth century, the total number of astrological almanacs printed in England exceeded the number of Bibles!

### **Astrological Magic**

In the Renaissance, Astrology and Magic had an especially fruitful relationship. Through the concept of *Spiritus Mundi*, Marsilio Ficino imbued the planets with soul so that they could influence the human soul directly. This view was also shared by Giordano Bruno, who even saw in the heavens a hierarchy of superior intellects who were granted influence over terrestrial and human affairs.



Bust of Florentine Renaissance scholar Marsilio Ficino (1433-1499) by Andrea Ferrucci, in the Cathedral of Florence.

of philosophy, religion, arts, science, or skills.



Occult planetary influences were probably the 'major premise' of Renaissance astrology. In the words of Giambattista della Porta, "Things here below...serve those above; and those celestial in turn, from their divine natures impart to us a certain virtue bringing about the generation of corruptible things within a regular and continuous order, and their decay"<sup>3</sup>.

But in the astrological magic of the Renaissance, Man - the microcosm - the bearer of the cosmic image and the creative powers of the cosmos - does not passively reflect the Macrocosm, but can consciously participate and engage in it. This sympathetic correspondence between the human soul (i.e. the Microcosm) and the various kingdoms of nature (higher and lower) is at the basis of astrological magic. A relationship based on those invisible links (or chains) which connect the planetary intelligences to their manifestation (and to the human being) through a hierarchy of animating powers.

This was not a static but an interactive type of relationship with the astral world (literally, the world of the 'stars'). One which needed to be supported by ritual actions and talismanic magic<sup>4</sup>. A relationship which aligned the astrologer-magician, his actions, the materials and images used and the astrological timing, under the same planetary chain. Harmonisation and participation within a certain planetary chain is what was implied in this form of astrology.

The astrological magic of the Renaissance is essentially the art of aligning oneself with the cosmos. It is the recognition of this inborn connection and participation in the creative powers of the heavenly bodies. The same creative powers which are also latent in the human being, his inner being.

Agostino Dominici

<sup>3.</sup> Magia Naturalis, Book 1, Chapter 5.

<sup>4.</sup> A complex procedure that allows the construction of talismans. Objects which have the power to embody and manifest celestial-planetary influences.

## Rethinking Contemporary Art in the Anthropocene Planetary Aesthetics

'Anthropocene' is the term given to our postindustrial epoch, whereby human activity has irrevocably altered the planet and its environment. The ascent of the anthropocene poses challenges across all areas of life, leading to species loss and looming existential crisis for humanity. For artists, being less tangibly involved in solutions compared to other sciences, it has arguably been difficult to confront the magnitude of our present times with clear insight and persuasion.

Art today is often critiqued or understood in terms of its ability to expound or counter various labels and classifications of human, psychological or material life – across function, use, form and value, reflecting a tendency towards materialism typical of our current times and of the anthropocene.

Material knowledge of function, use and form is undoubtedly useful and important in the creation of works of art but this alone can also tend towards the narrow and linear, at worst permitting arbitrary divisions, prejudice and objectification. Certainly a sorry assessment that could be levied at the masses of visual art 'produced' in our own and historically recent times.

However we could say also say that art is to do with expressing a kind of transcendent way of





'knowing' that inspires and announces developments in thought and feeling before other methods have been able to grapple with the details. Johann Wolfgang von Goethe said that "Art is a mediator of the unspeakable" and in this sense has the potential to reveal new possibilities and to open up understanding that the methods of other disciplines are simply unable to do.

Academic and author Susan Ballard has explored an approach coined 'Planetary Aesthetics' which supposes that artists look differently at the relationships between all forms of life; thinking, feeling and creating artworks from a 'planet-centred' point of view and on a 'planetary scale' (Ballard, 2017). Along similar lines, Donna Haraway, a professor in the History of Consciousness and Feminist Studies, has highlighted 'the fact that all earthlings are kin in the deepest sense' (Haraway, cited in Ballard, 2017). Planetary aesthetics is based upon the idea of multi-species relationships and looking less dogmatically at human encounters with nature and the cosmos with a view to enabling the emergence of new aesthetic and cultural possibilities (Ballard, 2017). Ballard references American artist Diana Thater's piece of work responding to a scientific study evidencing how dung beetles use the Milky Way for navigation and spatial orientation.

Her artwork transcends the scientific data and invites the viewer to perceive and relate to the beetles' lived experience and essence, as opposed to exploring its form, movement or habits alone.

The movement of the dung beetle explored by Thater perhaps distantly touches upon an ancient Egyptian understanding, where the scarab beetle symbolised human efforts to transform themselves into a state of harmony with the celestial heavens, symbolising the effort required to gain wisdom and live wisely. Whilst an interconnected understanding of humanity and nature has always existed in humanity's spiritual and wisdom traditions, we need to continuously arrive at the same profound insights again and again, in order for the experience of the wisdom to remain alive. As opposed to being reduced to another label, description or classification to become encased within the tomb of a textbook.

Perhaps 'planetary aesthetics' can offer a fresh channel for art to express the profound experience of 'unity' that has always been a source for both social and aesthetic cohesion, helping to forge a future culture resolute in its connection with each other, the Earth, all her forms of life and beyond...

Siobhan Farrar

### Ancient Britain

What is the history of the Prehistoric peoples of Britain, how far can we go back, and who were the people of these ancient Isles?

Britain's history of human occupation goes as far back as the Palaeolithic age, which means 'Old Stone Age'. Archaeologists have uncovered remains of our early human ancestors dating to 40,000 years ago. During this time, our early ancestors did not live here permanently as the climate fluctuated erratically between ice ages and sometimes became too hostile even for the hardiest hunters, pushing them out of this remote part of Europe entirely. Prehistoric remains of mammoths, rhinos and sabre tooth cats have been excavated relating to this era. Homo sapiens also shared this territory with other hominids, such as the Neanderthals and Homo Heidelbergensis. Altogether there were ten separate waves of occupation and expulsion.

The first permanent people of Britain were in the Mesolithic, or 'Middle Stone Age' period. Bands of

nomadic tribes who were hunter-gatherers had plenty of space and resources to survive on. They lived mainly in coastal regions eating fish and game and foraging for plants to supplement their meat diet. This period marked the end of the last Ice Age around 11,700 years ago and continued up to 3,500 BC. By some accounts, there might have only been an estimated 5,000 people present in Britain at certain periods during this time.

During the Mesolithic period, Britain was still connected to continental Europe as a continuous land mass joined to France, Holland, Denmark and the lower tip of Sweden. The Thames joined the river Rhine as a confluence and emptied westwards as a wide estuary along what is now the English Channel. This mythic land is called Doggerland, and would have consisted of small rolling hills and fast-running streams. The fauna was an abundant forest of birch trees with plenty of game roaming within it and an ideal hunting ground for the Mesolithic people following the seasonal migration of deer.



There was contention as to whether this land had existed at all, but in 1931 conclusive evidence was discovered by accident by Dutch fishermen working on a boat called the Collinder. They were dredging with nets, far out to sea off the coast of Norfolk. The fishermen scooped up a mass of peat with an arrowhead made of deer bone embedded inside it. The finely carved weapon is dated to be as old as 9,000 BC.

By 6,000 BC this massive area of land became submerged. The land bridge to Europe was now severed forever, making Britain a solitary island. Doggerland disappeared as the sea levels rose from melting ice caps. The final and most horrific cataclysm was a tsunami that wiped out the remaining land mass and archipelagos in a single



day. This event is called the Storegga slide, an underwater landslide caused by a mountain cleaving off the coast of Norway.

With Britain isolated from the rest of Europe, it was left to develop on its own, using ingenuity to survive in the harsh climate. These early people were shaping their environment to suit their needs by making clearings for hunting. There is also evidence of constructed settlements, though they were not permanently occupied as the people were still nomadic. In Howick, Northumberland, archaeologists discovered a building typical of this

period. In less than 1,800 years, farming replaced hunting around 4,200 BC.

Growing grains is often considered the single most important development for humanity and emerged in the area around the river Euphrates around 10,000 BC, while Britain was still under ice. This practice took a long time to reach our shores. With farming, the population of Britain increased and by 3,500 BC a new era emerged called the Neolithic or 'New Stone Age'.

It is with Neolithic Britain that we see incredible feats of engineering and the construction of impressive monuments such as Stonehenge. These so-called megalithic sites are not just located in the UK but all across Northern Europe and beyond. Agriculture not only allowed the Stone Age people to increase in numbers but also gave them more calories for such endeavours.

Finding the use and purpose of these Henges is still ongoing, but it is certain that the structures were calendars and places of ritual and ceremony. By aligning the sun to the monoliths, measurements could be taken that enabled the Neoliths to mark the seasons and the farming cycles.

Another type of construction are the burial mounds that are scattered around the British Isles, such as the Severn-Cotswold tombs, and Newgrange on the East coast of Ireland. The spiritual practices of these ancient people focussed on solar cycles including the immortalization of the soul after death. Many findings indicate that the finest of possessions were buried with the dead to take with them into the afterlife. The motifs of spirals, knotwork and cross-hatching were linguistic pictographs demonstrating a sophisticated culture that is deeply connected to nature, life, death and the continual cycles of time.

Britain has a rich heritage we should be proud of, extending deep into the past.

Paul Cummings

# Viktor Schauberger and the Living Energies of Water

Few people in the English-speaking world today have heard of Viktor Schauberger, let alone of his discoveries about the nature of water. And yet, Schauberger's ideas about water are arguably as important as James Lovelock's Gaia Theory of the Earth as a self-regulating system<sup>1</sup>. Schauberger asserted that if we treat water only as a molecular compound, we not only do it an injustice but we also harm ourselves.

Viktor Schauberger was born in Upper Austria in 1885 into a family of foresters. His family motto

1. The Gaia hypothesis, also known as Gaia theory or Gaia principle, proposes that all organisms and their inorganic surroundings on Earth are closely integrated to form a single and self-regulating complex system, maintaining the conditions for life on the planet. In 2001, a thousand scientists at the European Geophysical Union meeting signed the Declaration of Amsterdam, starting with the statement "The Earth System behaves as a single, self-regulating system with physical, chemical, biological, and human components."



was "Faithful to the Silent Forests". After seeing the effects of a university education on his elder brothers – they returned with what he called a "technical-academic mentality" based on a "nature-alienated science" – he made up his mind not to follow in their footsteps and instead became a forester.

Through patient observation of nature, he learnt to understand many of water's secrets. His key discovery was the so-called spiral-vortical motion of water which I will describe later in this article.

Schauberger's rise to fame and notoriety came when he was commissioned by his employer to build a log-flume for transporting felled logs to the sawmill in a cost-effective manner. He did it so effectively that his employer began to cut down more trees to make more money, and as a result Schauberger resigned and dedicated the rest of his life to campaigning and inventions.

He attributed his success with the log flume to his observations of the movement of a snake and the shape of a chicken's egg. Watching a snake swimming across a fast-moving current in a double spiral motion (a wavelike combination of vertical and horizontal curves) made him realise that if the logs could be made to twist in the same way by fitting counter-curves to the sides of the flume, they would avoid causing jams as they travelled down it. Thanks to the counter curves which he had had installed, even the largest and heaviest logs moved down the flume like snakes twisting and twirling in the water.

As for the inspiration of the chicken's egg, he used its shape in the design of the dam wall at the bottom of the flume, in such a way that there would be no build up of water pressure because the water would be forced to flow back against itself, causing its momentum and destructive power to be greatly reduced.

The majority of forestry commissioners and hydrologists were against his design and were furious when it worked perfectly, because it contradicted all their theories. The hydrology of his day maintained that water was merely a chemical substance and should be channelled in the straightest, most direct paths to its destination for maximum efficiency. Schauberger believed the opposite: water for him was a living being or substance, with certain vital needs (such as spiral, meandering motion), which, if denied, became aggressive and destructive – eroding riverbanks, for example. "Nature's ways," he said, "are always indirect."

Another discovery came to him as he was crossing a fast-flowing mountain stream. As he was doing so he dislodged a stationary trout with his staff, which immediately shot upstream at high speed. As a result of this experience he asked himself a number of questions: 1) How had the trout got to this position above waterfall in the first place? (2) How did it manage to remain stationary in the midst of a raging torrent and then, how did it actually manage to overcome the resistance of the water and its own bodyweight and move against the currents with such ease and speed?

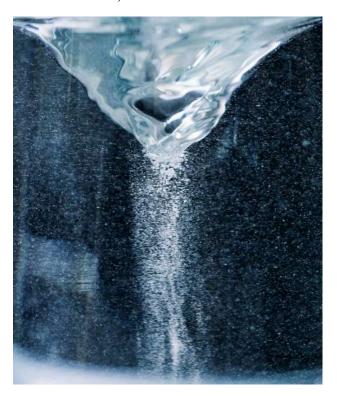
On another occasion, he observed that moss was bending upstream at the bottom of a stream, in spite of the fast flow of the water. This seemed to be similar to the phenomenon of the stationary trout.

His explanation for these phenomena was the "longitudinal vortex": by turning around its own axis in a helical motion the trout had created a counter-current which enabled it either to remain stationary or, by flapping its gills and creating further vortices, to move rapidly upstream with remarkable speed.

Schauberger formulated this by stating that, in addition to the gravitational force which draws the

water away from the source and down to the sea, there is a corresponding levitational energy which leads the water back to its source. When the river is in a state of optimum health, the levitational forces are even stronger than the gravitational pull, resulting in the tips of moss on the streambed being pulled "backwards".

The longitudinal vortex of water in a naturally flowing river tends to flow in the centre of the river. Because of its vortical movement, it draws matter towards its centre, so that the heaviest matter —



the densest water, at 4°C – will be found at the centre. It is into this central vortex that the trout finds its way and, once there, as if in a cocoon, can remain for as long as it likes, waiting for the food of the river to come flowing into its mouth. This is why rainy or turbulent days are good for fishermen in such streams because the trout cannot maintain its position when the water is warm or the temperature is frequently changing.

The other question which Schauberger had asked on seeing this trout was – how had got there in the first place? It was high up in the mountains above a waterfall – how could the trout have managed to get past such a formidable obstacle?

The answer to this came on another occasion when he was lying in wait for a poacher beside a pool beneath a waterfall. Suddenly, he saw all the little fishes scatter as a huge trout came into view. It headed straight for the base of the waterfall and began to swim round it in an egg-shaped fashion, describing a kind of dance. "All at once," says Schauberger, "it disappeared under the fall of water, which fell like liquid metal into the pond. The trout suddenly stood up on its tail and in the conically converging stream of water I perceived a wild movement like a spinning top, the cause of which was not immediately apparent. Having temporarily disappeared, the trout then re-emerged from this



spinning movement and floated effortlessly upwards. Upon reaching the underside of the topmost curve of the waterfall it did a quick somersault in a high curve upstream and with a loud smack was thrown beyond the upper curvature. With a powerful flick of its tail fins it disappeared."

Through these and many other observations, Schauberger came to believe that vortical motion could be used to create a sustainable technology for the future. He developed a number of remarkable inventions. One of the most important of these was the 'implosion motor'. "Implosion is a suctional process that causes matter to move inwards, not outwards as in the case of explosion. This inward (centrifugal) motion, however, does not follow a straight (radial) path to the centre, it follows a spiralling, whirling path. This is called a vortex and is the secret of nature."

Schauberger felt very strongly about the need to protect nature and promote a sustainable technology. He understood how important water is for life on earth and saw how our civilisation is 'killing' water.

The water which we drink and use for washing nowadays is lifeless, polluted with chemicals, delivered to homes in straight rivers and pipes. Even mineral water is kept in straight transparent containers, whereas the ideal conditions for water are cool, dark and de-oxygenated.

Naturalesque, serpentine rivers rarely overflow – 'Nature is wise', Schauberger would often repeat, in the manner of Pythagoras. In straight watercourses, on the other hand, silt (nutrients) sink to bottom and cause flooding – nature's way of returning water to untouched underground streams, from where they can rise again and flow naturalesquely. Forests are also central to water production, the health of rivers and agriculture. Lifeless water, on the other hand, is aggressive, causing both flooding and drought.

I would like to pay homage to this heroic individual who followed his path in service of nature and humanity despite all the forces ranged against him. From his own experience he once said, "Nature directs and protects those who honour and faithfully serve her." Reading about his life and discoveries, I did indeed have the impression that Nature helped him to make his discoveries and also protected him against his many enemies.

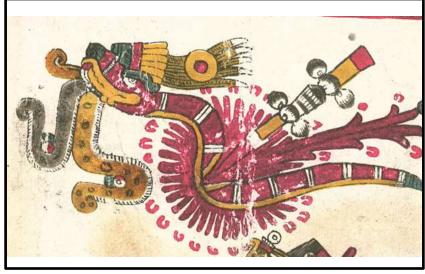
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# The Feathered Serpent

A drawing of Feathered Serpent, described in the Codex Borgia.



Stories of ancient civilizations appear and evolve in the flow of time. The symbols they contain are multivalent and complex and the pursuit of meaning is never a simple task.

Ancient Mexican legends tell of great cycles of construction and deconstruction of the world.

There was a new dawn, a new age was about to begin, but the sun created through divine sacrifice would not move, so the Feathered Serpent took it upon himself to sacrifice the gods to move it. But it was not enough. So, he stood up, mustered all his

strength, hurled vast amounts of air into his cavernous chest and blew with all his might on the sun. Then the sun moved and the moon moved, and they took up the path that they still follow to this day.

The new dawn arose, a new age was about to begin, but the earth was uninhabited, so the Feathered Serpent took it upon himself to create humanity to repopulate it. He descended to the dangerous Land of Dead to plead with the Lord of Death for the bones of ancestors. After fulfilling an impossible task, he

still could not take the bones, so he stole them and managed to escape the revenge of the underworld god. The Feathered Serpent went to the place of origin where the goddess of motherhood, the Woman Serpent helped him. Thus, from the mixture of the bones of ancestors and the blood of gods, the humans that still live today were born. The Feathered Serpent blessed them with maize, the arts of weaving and mosaicmaking, music and dance, the science of curing illness, crafts, knowledge, time, the stars in the heaven, the calendar, prayers and ceremonies.

The Feathered Serpent is found in Mesoamerican culture under many names and in many different stories that have common features. Toltecs and Aztecs and other Nahua peoples knew him as Quetzalcoatl (from the Nahuatl words "quetzal" – "bird" and "coatl" – serpent), the K'iche' Maya as Q'uq'umatz, the Yucatec Maya as Kukulkan. He appeared in images, statues and carvings from

around 100 BCE. From 1200 the Feathered Serpent began to be depicted in human form. Major Mesoamerican cities were organized around shrines that carried the image of the Feathered Serpent. As both bird and serpent he represents the unity and rulership of the celestial over the terrestrial, the ability of the spiritual to elevate the material.

The Quetzalcoatl of the Aztecs is both a creator-god and a rulerinitiate of the sacred city of Tollan. As a god, Quetzalcoatl is



associated with fertility and life itself. One aspect of Quetzalcoatl, Ehecatl, is the god of wind, who appears in the breath of living beings and the breezes that bring the life-giving rain clouds. Being one of the four sons of the primeval dual creator god, source of all, Quetzalcoatl is the creator of the cosmos along with his brothers in every new cycle.

The myth usually narrates the story of two brothers,

Quetzalcoatl and Tezcatlipoca - the latter associated with conflict and change - who are sometimes antagonists and sometimes allies. They repeatedly fight each other and with each successive battle the world is created and destroyed. Thus, there have been four previous ages of the world, and we are now living in the fifth one. Quetzalcoatl was the Sun in the second age and loved the people dearly.

The Aztec legends also tell the story of the human plumed serpent - the famous ruler of the ancient sacred city of Tollan. His name was Ce Acatl Topiltzin Quetzalcoatl ("One Reed [birth date], Our Prince, the Feathered Serpent"). It is considered that he established himself first as a fierce warrior and then as a priest with profound understanding and strong morality. When he became a ruler, he embodied the function of the creator god at his own level of responsibility and built Tollan to be a centre of civilization. He taught his people science and morality, formulated wise laws and showed how best to work their land. Topiltzin forbade human sacrifice and was appreciated for having constructed wonderful ceremonial structures, including temple pyramids, and for ordering peaceful coexistence.

Topiltzin became the preeminent archetype for priests and rulers. Later, every priest in this region was considered to be an embodiment of Topiltzin.



ezcatlipoca as depicted in the Tovar Codex

While everyone was happy with Quetzalcoatl's reign, his rival Tezcatlipoca was plotting his downfall. He brought many disasters on the people and eventually tricked Topilitzin into a misdeed. Thus, to his great sorrow the ruler was forced into exile. On reaching the gulf coast, Topiltzin immolated himself and rose into the sky as Venus. Other accounts say he boarded a raft of serpents and sailed towards the east, vowing to return again.

Maybe the myth about the return of Topiltzin Quetzalcoatl can be interpreted as the hope and the call for inner spiritual growth of a human being, so that they unite the heavenly and the earthly, become creators of their life, allowing best of their potential to be manifested in this world.

Nataliya Petlevych

