

The Loop or the Vortex

by Kader Attia

In 1996 I was living in Brazzaville, in the Congo, for almost four years. I was working with an NGO on cultural heritage. One afternoon, while killing time with my friend Armand, he showed me a dead tree lying on the street and started to explain that, during the night, this tree would turn into a large Boeing 747. Taking off from this street in a poor suburb of Brazzaville, it would fly into the sky towards Paris, to land there on the Champs-Élysées. All this during the night. There, the sorcerer and his colleagues would leave the aircraft and open the doors of the shops which sell technological goods, such as plasma-screen TVs, fridges, computers etc., and bring them into the aircraft. After that, they would take off from avenue des Champs-Élysées and fly back to Brazzaville, to this street in the Bacongo neighbourhood. Then they would unload the magical aircraft with all these goods and transform it back into its original shape: an old dead tree. Believe it or not, Armand said, this is true.

What my friend Armand, who was a computer analyst, described without a single doubt remained stuck in my mind for many years, as an echo of the Western theory of the 'cargo cult' in ethnological studies.

The cargo cult is a myth that has been observed in several traditional societies, but it first appeared in the Melanesian Islands, when contact with modern Western colonisers occurred within exchanges through everyday life objects. The traditional populations were disturbed by the unexpected materials and functions of the 'sophisticated' objects brought by the white male coloniser. In traditional societies colonised by modern man a form of reappropriation of the freedom to enjoy the material objects and technological goods of the invader occurred in many different ways.

The analyses synthesised by ethnologists, in the wake of the emergence of such myths, which show a break in time of the group's traditional cosmogony, has come within the scope of social sciences as a way of reacting to the frustration of the native's desire that de facto confirms the superiority of the white man and, above all, of his modern attributes.

Modern scientific thought has summarised the cargo cult as the production of beliefs relating to modernity's objects, such as domestic appliances, computers, etc. But no one has ever investigated traditional societies' perception of the fact that traditional everyday objects or sacred, ancient ones have been collected and gathered in Western modern institutions like ethnology museums.

And yet it seems that, in many respects, the way ethnological objects are worshipped and gathered in museums, where you have to line up, wait and pay for your ticket to have the chance to admire such and such fetish, continues another form of belief, one which these objects refer to. The French ethnologist Monique Jeudy-Ballini used to live in the south of New Guinea, where the conservation of old masks has never existed because the Papua New Guinea communities, especially those from the Sepic society, used to destroy the masks as part of a ritual. There she explained to people living in very remote areas of New Britain that in Europe we were installing old masks and statues from their area in places where people could pay to see them. They answered, 'So you get our old objects to put them in temples, worship them and meditate in front of them?'

Thinking about things in a complementary way – in an endlessly reciprocating way – is fundamental when one thinks of the complexity of humankind's structure. That's why it is important, beyond this theoretical and rational scholars' synthesis, to be sensitive to the incredible flexibility of the magical that binds the technological in the cargo cult. Because what sounds to a Western anthropological modern mind like the invention of myths out of ignorance and frustration appears as another form of philosophy.

As the Senegalese philosopher Souleymane Bachir Diagne says in *African Art as Philosophy*, 'sacred or secular objects in traditional societies devoid of a system of writing embody not an Art but a Philosophy'. The fascination for Western objects, observed as the cargo cult, leads to a production of new concepts as an answer to modern Western hegemony, supported by colonisation. But the fundamental stake here goes beyond social-economic and sociopolitical injustice. From concrete, limited social order to the immaterial infinity of beliefs, the open-minded thought the cargo cult is based on draws its perspective from both an animist conception of the universe and the complex, endless agency of the digital, which is limitless because it is based on algorithms.

The story of the transformed plane indeed clearly shows another form of repair, beyond the political perspective. From one natural element (a tree) to a cultural and technological one (a plane), this repair mimics a natural instinct for improvement, which has always existed within nature, but here makes the metaphorical move from nature to culture.

And there is more. From a natural state to the engineering of steel and gas, the myth of the appropriation of modern power is built here on a transformation helped by the belief in magic. This transformation allows the fellow of the group to be a part of the modern order and then to adapt to the new technological environment he's confronted with.

Struggling for centuries against their environment by developing an endless ability to adapt, traditional cultures, newly colonised by the West, had to readapt to a new environment – an environment where the secular relation between the individual and the social was not more important than the relation between the individual and the machine within a dogmatic hegemonic order called Modernity. A metaphor of the movement between the natural gregarious instinct (shared by the individual and groups in all traditional societies since Neanderthals) and the individualist cultural environment brought by the colonialisating Modernity recalls one of the main criteria of the theory of the evolution of species: adaptation to the environment's shifts in order to survive.

So two crucial, polarised issues emerge from this phenomenon named the cargo cult, in the light of the concept of repair from the political to the magical. On one hand, the concrete one, repair articulates a sociopolitical and sociocultural adaptation. On the other hand, the immaterial one, repair articulates a virtual adaptation that the rhetoric of animist beliefs and digitalisation share.

Where does this adaptation instinct come from? The human mind constantly questions its time, its past and its future, in order to endlessly adapt to its changing environment. It comes from thousands of years of teaching itself to understand the world. This reaction repairs a state of unsuitability in a new environment. The conclusion of my article 'The Loop', published in *Supercommunity*, answered the question, 'Is the Universe a gigantic computer?' with 'The Universe is not a gigantic computer, but humankind is mimicking one.' Adaptation to change is only a mimesis of the natural order of things, to which humankind is subordinated. Humans only reproduce the model of resistance through adaptation that exists among all living species.

It seems fundamental here to come back to the theory that has forever fixed the universal structure of the evolution of species. This notion of natural evolution through adaptation has been at the core of Modernity's naturalist scientific thought, in the midst of the nineteenth century's colonial and industrial era. But it's important to remember that this theory was not only put forward by Charles Darwin, as people commonly think. While Darwin, already celebrated by the Linnaean Society, worked slowly for twenty years on the writing of his theory of the evolution of species, he received in 1858 the book of someone unknown in the scientific field named Alfred Russel Wallace.

Wallace was a British naturalist, geographer, explorer, anthropologist and biologist. Darwin barely knew him; they had only exchanged letters on the issue of evolution, but nothing more. Wallace was an autodidact who had to drop out of school at sixteen to work with his brother because their father was broke. Darwin came from science's aristocracy. His grandfather Erasmus Darwin had left an important mark on that time's contemporary sciences. Wallace was thirty-five when he sent his book to Darwin, who would have been deeply depressed after reading it. Indeed, this book, gathering Wallace's observations on the Malay archipelago, is word for word the theory that he himself was writing but with lightning reasoning and a quickness to conclude in a clear-sighted way. Darwin later answered Wallace to invite him to develop the theory on the evolution of species with him, which would lead to the terminology 'natural selection'. They would remain friends all their lives, despite a fundamental conflict over the issue of natural selection, of adaptation, to which we shall now come back.

Wallace reached the same conclusions as Darwin regarding the evolution of species; however, he does not use the expression 'natural selection' and rather considers the mechanism of evolution as the result of environmental pressure, whereas for Darwin evolution comes from competition between the members of the same species. The difference is tiny, and they worked together on the theory in any case, until Wallace created a fundamental controversy. It led to a discord that made Darwin write, 'I hope you haven't totally killed your and my child.'

In 1869 Wallace announced that ultimately he wanted to limit the scope of natural selection where man is

concerned. One of his main arguments was that the brain of prehistoric men was disproportionate compared to their needs, which was a clear contradiction with the fact that natural selection works following the principle of immediate utility. He wrote, 'Man comes from an inferior animal form but [...] has been modified in a special way by another force, the action of which has come in addition to the one of natural selection.' This force had an impact on man's environment and vice versa.

Actually, Wallace claims that basing the theory of natural selection on the adaptation to a constantly changing environment or to competition between members of the same species means denying an absurd aspect of the evolution of the human species. Indeed, the human species had no reason to evolve after the Neanderthals because it was already able to survive in its environment with hunting and gathering, fishing etc. Why then has it evolved up to the era of the Industrial Revolution – the moment that marks the beginning of the end of the environment due to pollution?

In both cases, natural selection based on the superiority of the members inside one species, or on other species, for Darwin, and on a superior capacity to adapt to the pressures of an environment – the theory of evolution – for Wallace has one mistake. This error is due to the fact that the more humankind adapts to its environment, or grows, the more it develops, the more it destroys its environment and itself. Destroying its reason for being: environment. This environment that gives birth to it and makes it evolve, with which it has always had an interdependence, incredibly unbalanced by evolving human intelligence and the basic need to survive. From this nonsense, naturalist Alfred Russel Wallace started to think that there was something else, a superior force that has produced the disproportionate and useless cerebral capacity of man, who as a Neanderthal was already able to survive for centuries while at the same time creating the environmental pressures that have triggered man's capacity to always adapt more. The questions Wallace raises here are: If the environment pressured species in their evolution, why has the human species been privileged physically while being one of the most vulnerable? And why does the interdependence between species and the environment have the destruction of the environment as its unique outcome?

This unexpected conclusion articulates two types of repair: first of all, the natural selection of a weak individual giving way to the strong one, according to Darwin's thought, or second, of the one the most able to adapt to its environment and its changes, specific to Wallace. So if the environment, as Wallace thinks, is in a process of destruction, then there is an even more complex issue, which is the adaptation no longer to the environment but to the human being. Because if Wallace thinks the intelligence of an extra-human force has manoeuvred illogicalities like the overdeveloped capacity of the human brain for simple activities, then humankind has been able to adapt to its changing environment, to dominate the other weaker species as well as to its weaker fellows, but would it be able to adapt to its own superiority?

What Wallace unveiled is the crucial stake of the human species adapting to the human species, to survive in the post-Industrial Revolution era. For Darwin, this other force that would have created the illogical conditions of evolution for man and its superiority is a blind chance. Wallace disagrees, because, for him, the theory of evolution proves that it comes from a succession of causes and consequences and not from chance, otherwise mankind would be a mistake. Chance or mistake, the crucial question is: Is there still time to repair this self-destructive agency, defined by Wallace, or is this unavoidable destructive agency the repair of the mistake, of which mankind is the name?

First of all, we need to understand that according to Wallace and Darwin a destruction of mankind means either the end of humankind through the end of the environment, or the end of humankind replaced by another superior intelligence created by him or that created him. The question of humankind's destruction is not new. Cinema, literature, painting, music, religion and so on have often treated this topic widely; it is still at the core of our contemporary images and haunts our minds. Within the contemporary psyche, the end of humankind is coming either from environmental disasters or from the competition between humans and other superior technologies created by themselves or by aliens.

Without any modern technology, the Dogon people from Mali, like many other civilisations (the Incas, the Persians, the Arabs), used to practice astronomy. The Dogons have observed with naked eyes that every sixty years a very bright star returned to the sky. They named it Siguitolo. They have made it the main temporal axis of their cosmogony. Then every sixty years they celebrate it with a ritual named 'Sigui'. Old and new masks of the Dogon country, like the famous 'Kanaga', dance from one village to the other for more than a year until the star leaves the sky ... We had to wait until the middle of the twentieth century

and new telescopes to at last observe this phenomenon and discover that it was in fact two stars joining on the same axis every sixty years: Sirius A and Sirius B.

Visible and invisible physical phenomena have influenced the cosmogony of several civilisations, and the beliefs that came from them have also been at the basis of other discoveries. The grammar that was used, as scientific as it could be, wasn't always figures, but words or images. Because one always believes above all in images.

During the ninth century Ibn al Khwarizmi, who gave his name to algorithms, wrote his fundamental essay 'Kitābu 'l-mukhtaSar fī hisābi 'l-jabr wa'l-muqābalah', or 'Abstract of Calculus by Restoration and Comparison'. This book consists of six chapters. It does not contain any figures. All the equations are expressed with words. The square of the unknown is named 'the square', or *mâl*; the unknown is 'the thing', or *shay* (*šay*); the 'root' is the *jidhr*; the 'constant' is the *dirham*, or *adad*. The word al-jabr was taken by Europeans and later became the word 'algebra'.

From the ninth century until now, algorithms have changed our lives. They are everywhere, even where we don't yet know that they exist. That's the case with algorithms that look for things that we don't know about, and, even more so, of those that deal with things that we don't yet know do not exist. Producing a formula to describe universes that we don't even know do not exist – this is the definition of algorithms, to which mathematicians like Donald Ervin Knuth refer as 'black magic'. The Industrial Revolution, which Alfred Russel Wallace considered to be the beginning of the end of mankind, has been transformed into an era of high technology, where the binarisation of everything is constantly increased. We slowly slip towards a world where the decaying physical environment will give way to another digital environment, which we build like a perfect mirror of our superiority. This virtual alter ego, made of billions of algorithms, some of which we have no idea of, has probably acquired the agency of repair that deeply defines the human species who created it.

To adapt to this superiority of humankind, about which Wallace warned us, means actually to adapt to our artificial superiority, which is increasingly disproportionate in comparison with our average brain capacity. We cannot compete with the velocity of algorithms combined with technology. Regarding 'black magic', to which mathematicians refer in term of algorithms that describe worlds we have no idea of, it is crucial to remember that this conception of immaterial powers parallel to the human world has always existed in anti-Modern animist beliefs. It had the freedom to describe what we didn't know and to enjoy this non-knowledge. Why? Because non-knowledge prevents any civilisation from falling into certainty, as certainty is the beginning of madness and decadence.

This ambivalent relation between an artificial power described by Wallace, which seems to be more and more embodied by the endless digitalisation of the universe, and old animist cosmogonies and their beliefs in immaterial powers describe a loop. A loop or a vortex which endlessly re-enacts itself, from immaterial beliefs to the belief in virtual technology. Remember what I told you at the beginning of this lecture: 'One always believes above all in images ...'

The *Matrix*, the story the Wachowskis have put in words and images, is particularly eloquent on this question. Especially the second part of this trilogy, when the Matrix is reloaded.

In this story, the hero, Neo, reaches the centre of the matrix after having overcome and destroyed almost all obstacles, except agent Smith, whose goal is to stop Neo. But Neo then discovers that two artificial intelligences of the matrix, the Oracle and the Architect, who have created and manage the matrix's net, might have created him and that he has already reached the centre of the matrix five times before. But he doesn't remember, because each time the matrix was reloaded. They have created him to challenge and destroy all the obstacles they have built in order to improve them and protect the centre of the matrix even better, from human rebels, from Agent Smith, and Neo himself. So the more they reload the matrix the better its protection system is. The only uncontrollable fact is that Neo is also human, and humans are unpredictable. But even when he decides to sacrifice himself to kill Agent Smith, the matrix can be reloaded again.

Like Sisyphus and his rock, mankind is a prisoner of an endless loop, condemned to be ruled by machines and algorithms. This loop, or more correctly, this vortex process (because it does not perfectly repeat itself by going back to its original state), helps us to understand one of the crucial points of the repair of this unbalanced relationship between humankind and the disappearance of its concrete physical world

into a virtual digitalised order of representations. Remember that we do believe, first of all and after all, in images.

It is because we do believe in images that, in the *Age of Reason*, a concept named by Emmanuel Kant as 'correlation' emerged. Neither an image nor an object can think by itself that it is an image or an object, nor can our minds. The thought depends always on a connection between the object and the mind. This connection, going back and forth between the object and the mind, has been conceptualised by Kant under the name of correlation. René Descartes's *Discourse on the Method* enhanced this concept with the use of inference. Between two different things the mind always draws an analogy, which is the 'difference' between them.

For a couple of years, a new way of thinking beyond and before the correlation, from the simple concrete thing to the universe, has emerged from French philosopher Quentin Meillassoux in his essay 'After Finitude'. A focus on the possibility of thinking beyond and before the Kantian correlation, which always drive our way of thinking, means thinking the thing within the thing, independently from the belief process based on the relationship – actually, independently from the secular factor of causality. This new orientation from the classic modern standard of thinking correlatively, by considering the concrete object, shows how much this theory stigmatises a fear. The human fear confronted by the endless disappearance of physicality: firstly because of the 'dataisation' of the universe, called rationalism, and secondly by the binarisation of everything.

This fear of artificiality leads to artificial intelligence. The main actors of global digitalisation, like Bill Gates, Steven Hawking and other mathematicians, have been warning us about artificial intelligence for years now. As said before, artificial intelligences are our alter egos. But to understand how artificial intelligences think, we have to build their archaeology. Artificial intelligences continue the modern human mind's creation. They are therefore also ruled by the principle of correlation. Like images in which we believe, artificial intelligences are actually algorithms that think by using images in a process probably similar to correlation. Remember that the father of the algorithm, Ibn al Khwarizmi, only used words and images in his fundamental equation. Here is one of the crucial frames of modern philosophy, which lasts until our contemporary digital era, through algorithms using the correlation to grow endlessly. As correlation is the keystone of our perception of the world, through the concept of the signifier and the signified, we might have transmitted this dialectic of reading images to artificial intelligences.

The real stake is whether the frame of the thought, within this very limited pattern of the signifier and the signified, will be able to be reinvented.

Monotheistic civilisations all have a system of writing, which makes them based on an eternal cognitive dialogue between the object (the significant) and its referent (the signified). The book is an object, but it refers to an immaterial reference. What Serge Gruzinski explains very well regarding the system of writing and the psyche of civilisation, which have disappeared, and their cosmogonies is that when you look at a codex and watch drawings (ideograms), you think that the piece of corn, for instance, refers to corn and food. But actually it also refers to human flesh, for Aztecs were anthropophagous (cannibalistic) during their ceremonies. The link between those multiple referents that a simple piece of corn can refer to is even more complex for us when we understand that it could also refer to the mountains or to the sun as well as to a bird. Ancient civilisations did not frame their thought within the limited geometricality of the signifier and the signified but on a variable geometry, where a continuum between things structured the endless universe. Beyond the object and correlation we have to reinvent an unpredictable way of thinking outside modernity's old dialectic of the signifier and signified.