

# **The Grasshopper Man**

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a very short synthesis of the book

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*The Grasshopper Man - and the Metamorphosis of the Electronic Society is a book published in 2017, in two editions - in Portuguese and in English - distributed internationally by Amazon. The book is the result of twenty-one years of research that also resulted in two previous books: Teleanthropos - The Dematerialization of Material Culture (published in 1999), and Low Power Society (written and published between 2003 and 2010).*

So many times In our lives, we came across stories of parents who condemned the lives of their children, children that destroyed the lives of their parents, brothers stealing brothers, politicians devastating entire countries, people destroying families, managers disintegrating companies with decades or even centuries of existence.

They are so many that we are unable to number them.

It is the *Grasshopper Man*.

In 2000, Eleanor Maguire, Irish neuroscientist, professor of cognitive neurosciences at University College London, conducted a study that quickly became popular through newspapers worldwide. She found that the neuronal area known as *hippocampus* in taxi drivers' brains, in London, is bigger than the same region in people with other professional activities. The hippocampus is a neuronal sector strongly oriented to space navigation. Intensive use of this area by memorizing paths and navigation, made taxi drivers' brains different of other people's brains.

That is: our brains change plastically, in physiological terms.

Susan Greenfield, neuroscientist researcher at Oxford University, author of the book *Mind Change - How Digital Technologies are Leaving Their Mark on our Brain*, published in 2015, underlines: "...neurons are highly dynamic entities capable of extraordinary plasticity, not a fixed component that can be plugged in and played with persistent and dogged regularity, independent of the surrounding micro-, meso-, and eventual macro-scale environment in which it is located".

Researches conducted by a team formed by biologists Sepideh Bazazi, Jerome Buhl, Joseph J. Hale, Michael L. Anstey, Gregory A. Sword, Stephen J. Simpson and Iain D. Couzin, published in 2008, show how processes of mass migration of grasshoppers are "strongly influenced by cannibalistic interactions".

In 2005, the British psychiatrist Peter Whybrow published the book *American Mania*, where he argues that much of our behavior we classify as disruptive is determined by a genetic component shared with insects like grasshoppers.

Why grasshoppers advance and devour their peers, if this could ultimately affect in negative terms the existence of their own species?

Why humans - a social animal - severely harm their peers, sometimes the closest to them, such as parents or children, husband or wife, if it, in last instance, negatively affects their own existence, of their offspring?

There is a genetic explanation in the form of a survival mechanism. Living organisms have a genetic articulation that causes an insect or animal go "blindly" forward when a food is easy opportunity.

That is: moving without judgments, without reflection of any kind - at least among humans.

One essential element in this process is serotonin. The other one is dopamine.

Serotonin and dopamine are neurotransmitters - molecules involved in the process of "communication" between neurons. These two neurotransmitters are often considered responsible for our feelings of pleasure.

When we feel a great pleasure in discovering a new love, a great opportunity in life, such feeling is dopamine. When we are in peace, in front of a wonderful landscape, happy, this is serotonin.

Cocaine induces increased levels of dopamine, causing the person to a condition of pleasure, of greater sensory acuity and, up to a limited extent, to higher reasoning skills.

However, many times, dopamine is considered more as a kind of neuro-modulator. This is because up to a certain amount its nature is excitatory, but beyond a certain threshold this neurotransmitter passes to induce opposite postsynaptic responses, depressing them.

When this happens, the cortical region known as prefrontal loses the competence of what we call "reason". Planning capabilities, introspection and reflection are, then, deeply affected, and the person starts responding to the impulses we commonly call "emotional."

Increasing the amount of dopamine, we "lost our mind", and we can do something that in other circumstances would not do.

The prefrontal sector in our brains is responsible for some very significant features of our behavior and of what we believe as *truth*.

It is the prefrontal sector that makes us distinguish between a perception of time while "before and after", and a perception of time as "past-present-future".

The emergence of a time characterized by the structuring in "past-present-future", produced by the functional intensification of the prefrontal sector makes possible what we call "planning".

Only with an intense specialized sensory exercise of the prefrontal sector we establish skills of time while "past-present-future", of planning, of recognition of the Other, of the notion of individual.

The prefrontal brain sector is responsible for refining and expanding our idea of limit, as well as for our conceptions of future, our competence to plan, for ethical and moral judgments, and even for the definition in high resolution of individual personality.

One of the essential features of prefrontal sector is called "executive function": the ability to organize a temporal sequence of actions with a particular goal.

This function is enhanced with dopamine up to a certain threshold after which the reason, the teleological and temporal organization of ideas, becomes impaired - such as with the use of amphetamines and cocaine: up to a determined moment, that organization is benefited, but beyond a certain threshold an executive defunctionalization takes place, giving way to impulses of emotional and instinctive nature: prefrontal becomes "locked" and the person starts living irrational moments.

Like a grasshopper, with the sudden rise of dopamine and serotonin, the human being moves forward.

After a given moment, executive function of prefrontal is dramatically decreased.

In a battle, in a conflict between groups of animals, in a hunting - either being hunter or prey - the senses have to be alert, there is no place for reflection, everything is immediate, violent and radical. It is then that these neurotransmitters play an essential role.

The reading of books, with the so-called literary dive, implies a strong structuring of the pre-frontal sector, giving to the human being a greater capacity of reflection and "measure".

Everything seems indicate that electronic systems have substantially changed the role of prefrontal sector activity, with people in general reading less books.

This is not about pure and simple literacy, but of time spent in reading books, in *literary diving*.

Over the centuries, literature represented an intense neuronal exercise, intensely functionalizing the prefrontal sector.

Thus, this intense visual exercise through the phonetic alphabet and paper - or papyrus - produced the emergence of concepts such as the *individual*, the Other, democracy, the Rule of Law, negative freedom - according to which one's right ends where the other's begins - the syllogism, the time as past-present-future, the abstraction of aesthetic appreciation as we know it in the West, the capacity of long term planning, the competence of prediction and so on.

In the same way the intensified use of the prefrontal sector through literature produced the internalization manifested by the orientation of attention to the exterior world; externalization and disembodiment generated by the electronic universe manifest a kind of orientation of attention to himself, but now while surface.

In the universe of literature, it is about the individual and the Other, while in the electronic narcissus what we have is the fast disintegration of the body, taking the old idea of the individual while content of a new medium, now ephemeral, disembodied.

Technological transformation in civilizational terms, produced by the electronic world seems to dramatically change the intense use of the prefrontal system framework previously projected by literature.

Literature is an essential condition for democracy to exist. This is not a matter of contents, but of logical system.

So, as the world becomes more electronic - and closer to the acoustic universe as indicated by Marshall McLuhan - less democratic it becomes, although sometimes we can find a great quantity of news saying exactly the opposite.

Democracy is a logical structure consisted of discrete particles operating a teleological process - people who vote to elect other people who will have some power over the management of the common good for some time. This is the fundamental structure of literature, as I discussed in my book *Mondo: Democracy and Literature*, of 2006.

In the oral world, there is a continuous exchange of functions and values among people, not allowing the emergence of individuals while

discrete particles. The acoustic reality of agriculture is a world of roles and representations where even the leaders are inseparable part of everyday social structure.

In 2015, the journal *Science*, of the American Society for the Advancement of Science, published a special edition dedicated to the end of privacy: "At birth, your data trail began. You were given a name, your height and weight were recorded, and probably a few pictures were taken. A few years later, you were enrolled in day care, you received your first birthday party invitation, and you were recorded in a census. Today, you have a Social Security or national ID number, bank accounts and credit cards, and a smartphone that always knows where you are. Perhaps you post family pictures on FaceBook; tweet about politics; and reveal your changing interests, worries, and desires in thousands of Google searches. Sometimes you share data intentionally, with friends, strangers, companies, and governments. But vast amounts of information about you are collected with only perfunctory consent - or none at all. Soon, your entire genome may be sequenced and shared by researchers around the world along with your medical records, flying cameras may hover over your neighborhood, and sophisticated software may recognize your face as you enter a store or an airport".

What is the frontier between public and private in the electronic universe?

The acoustic world is a reality of roles and representations; the world of literature and industry, a universe of production and function; the fluid and volatile electronic world is designated by the ephemeral and by superficiality.

David Lyon, Scottish sociologist expert in surveillance and control systems, said: "The border is everywhere... You don't have to be trying to cross through a physical border checkpoint to sense that you are an alien, a non-citizen, someone who does not belong. But there is another sense in which the border is everywhere. Although national identity card systems have many purposes, one of them is to enable authorities to distinguish, clearly and automatically, between those who do and those who do not belong as full members of the nation state".

In Lyon's wise observation, we have two dimensions: the disappearance of the citizen, as it was born in the Greek world, and the rule of a tyrannical State, foreign to most people.

The beginning of the twenty-first century was scenario of a process of a strong global impoverishment, especially at the middle-class individual level. Something that, in economics, is called "elimination of liquidity".

Such impoverishment appeared accompanied, as always, of a process of intensification of social inequalities: every day less people concentrating

more wealth.

In 2017, Oxfam - International Confederation against Poverty, which aggregates eighteen non-governmental organizations - declared in a World Economic Forum in Davos, Switzerland: "World's eight richest as wealthy as half Humanity". Only eight people were so rich as half of the entire world, what was of about almost four billion people!

Interestingly, narcotized, people in general - including specialists - seemed unable to question about the reason of that phenomenon.

Control and surveillance are typical features of agrarian societies, oral ones, as well as of the family, the army and of religious institutions. These figures - family, army and religious institutions - emerge with the birth of the city.

When the use of the pre-frontal sector is intensified by phonetic alphabet associated to light media of memory storage, there is a kind of "internalization" and the old control and surveillance becomes self-control in the experience of a negative freedom.

The reversal phenomenon with the passage to the electronic society produces an illusion of liberation.

Articulated in the electronic dimension of what we could call "real space-time", this hyper-urban environment operates a new type of closure of the city, in a nano-scale decision: the walls become virtual.

The finite projected by the infinite.

In 1993, Cornelius Castoriadis - philosopher, economist and psychoanalyst who lived between 1922 and 1997 - said: "when it is openly proclaimed that the only value is money, the profit, that the sublime ideal of social life is to 'get rich', could we conceive that a society can continue to function and reproduce on this sole basis? If things are like that, then employees should ask for and accept bonuses to do their work, judges should auction off the decisions of their courts, teachers should give good grades to the students from whose parents they received payments, and so on. The widespread corruption that we see in the contemporary political-economic system is not peripheral or anecdotal, it has become a structural feature, systemic, of the society we live in".

The electronic universe turned easier for governments the tasks of control, surveillance and persecution. What, at least in principle, should have been the sense of sharing, participation, has proved to be persecution, control and punishment.

In all these movements, there is less sense of citizenship, less recognition of the individual, increased control by the State, elimination of the

middle class, flattening of the general population, huge concentration of income and so on.

In all these elements we find the logical design of the telecommunication network of the networks in real-time.

Mike Lofgreen defines the Deep State as "the big story of our time. It is the red thread that runs through the war on terrorism and the militarization of foreign policy, the financialization and deindustrialization of the American economy, the rise of a plutocratic social structure that has given us the most unequal society in almost a century, and the political dysfunction that has paralyzed day-to-day governance".

If Bucky Fuller, Lofgreen and Rickards are right, the world is entering into a new phase of capitalism - controlled and designed by a gigantic economic vampire, similar to the concept of the "universal acid", so popular among alchemists. It would be a phase of capitalism never predicted by Karl Marx.

All over the world, classes have disappeared. Everything has become use, surpassing consumption. What we have are billions of miserable people, hundreds of millions of people in permanent migration, rulers who are often criminals, wars as money-making machines, increasingly controlled people, surveillance, an entirely connected planet, cultures for which the concept of work has almost no significance, a gigantic consumption of drugs, megacities with tens of millions of inhabitants. A planetary system that seems to work as a fluid in viscosity.

What is happening is a transition between technological environments, a sensory reversion.

Almost all States in the world have become heavily indebted, with compromises often due to financial systems whose loans are frequently denounced, even if sometimes in an irregular way, by the world press as "odious", without legal value, made under coercion or bribery .

Politicians, bankers and senior civil servants suddenly become millionaires, without almost any criminal investigation.

Not matter our subject - gluten, sugar, salt, sun, pollution or fats - it seems that we are always confronting a gigantic wall of large corporations, large economic interests, the Deep State, as a tentacular structure, present a little everywhere.

The situation has reached the point where thousands of mathematical models control each person, continually exchanging information. If you apply for a loan at a bank, if you enter a hospital, buy a car, a property, if you wish to enter a university, put your children in school - especially in the United States - the other party will immediately know who you are, if you have a

criminal record, if you have had or have problems in your family, if you have any illness, if you have psychological problems, if you read a lot or a little, what kind of food you prefer, what your professional background, whether you have allergies, whether you have revolutionary ideas, whether you have many or few friends, your sexual preference, your skin color, your religion, your personal time habit, your preferred perfume, if you drive or not, what kind of partner attracts you, if you sleep well or not, and so on.

Not only, we rapidly started robotizing Nature. In addition to other experiments and projects, Baranidharan Raman, a professor of biomedical engineering at the University of Washington, at a American Navy's request, developed in 2016 sensors and transmitters of information to be attached to insects, in this case grasshoppers. The goal is to use the olfactory abilities of insects to detect explosives.

If this is impressive - no less impressive is the permanent change in terms of our plastic neuronal systems produced by sensory inputs forming an infinite mirror, a fractal reality.

Robots are the realization of a non-response reality, of the non-responsibility, non-moral, of the continued use of a total voyeurism, of the invisible, of the elimination of figure and ground, to see without being seen, to be without being observed; a reality of the human disembodiment, an integral presence while post-machine - and it also about the State without nation, fully police oriented, urban and transnational in planetary terms.

This is a design of the electronic universe.

Under increasing illiteracy, often functional, among politicians there is also the emergence of a new logical system through the new electronic media.

While the world of literature establishes a hypnotic immersion through continuous development of images and ideas, remarkable product of an intensification of the pre-frontal sector, electronic media offer such elaboration already made, without imagination.

While the agrarian world is a reality of theatrical roles and representations, the literary universe is closely linked to the function, to the idea of process. Such difference is a product of the book, whose impact was strongly felt after Gutenberg. The electronic world rescues the ancient world of roles and representations of the acoustic universe, but now established on a logics by coordination, in parallel, which no longer happens according to a teleological, hierarchical order.

But what is the truth in an electronic world? In other words: what is the universe of signification that characterizes what we believe when we are formed in an electronic world where everything can change all the time?

For an acoustic society, any direct, clear, structured statement in strongly teleological terms is taken as an act of violence; while for a literary society, flourishes and ramblings - typical of oral cultures - are considered indices of falsity, of absence of meaning, of lies.

If we have such a change about the idea of truth, before a stable belief, what to say when we have in mind the statement of the great independent journalist I. F. Stone: "All governments lie"?

Despite all that, the electronic world is not a return to the past, although there are some curious similarities that can shed light on the meaning of human, so often eluded by history and contemporary reality.

Electronic metamorphosis is a metamorphosis of thought. And with it, also of time and space.

In 2012, the French philosopher Michel Serres gave an interview where he stated: "it is not about a crisis, it's a changing world".

"We were 50% of farmers at the end of World War II and today they are not more than 1%. During my human life, and this is unique in history, the world population doubled twice! When I was born, we were two billion people, and today we are seven billion. In the same period, life expectancy tripled. It's all this what we do not see. We know that an earthquake is happening on the surface. But the theory of the movement of tectonic plates is explained by deep movements. That's what I try to explain is about deep movements. The end of agriculture, the victory over pain in medicine, the lengthening of life expectancy. All this has enormous consequences: when my great-grandfather married, statistically, he swore allegiance to his partner for five to ten years, now it is sixty years. We always say 'marriage', but a commitment for ten years and a commitment for sixty years are not the same thing! There are many things that have changed secretly, about which we don't see the change, but that completely revolutionized the world. We passed, in less than fifty years, to a new world" - said Michel Serres.