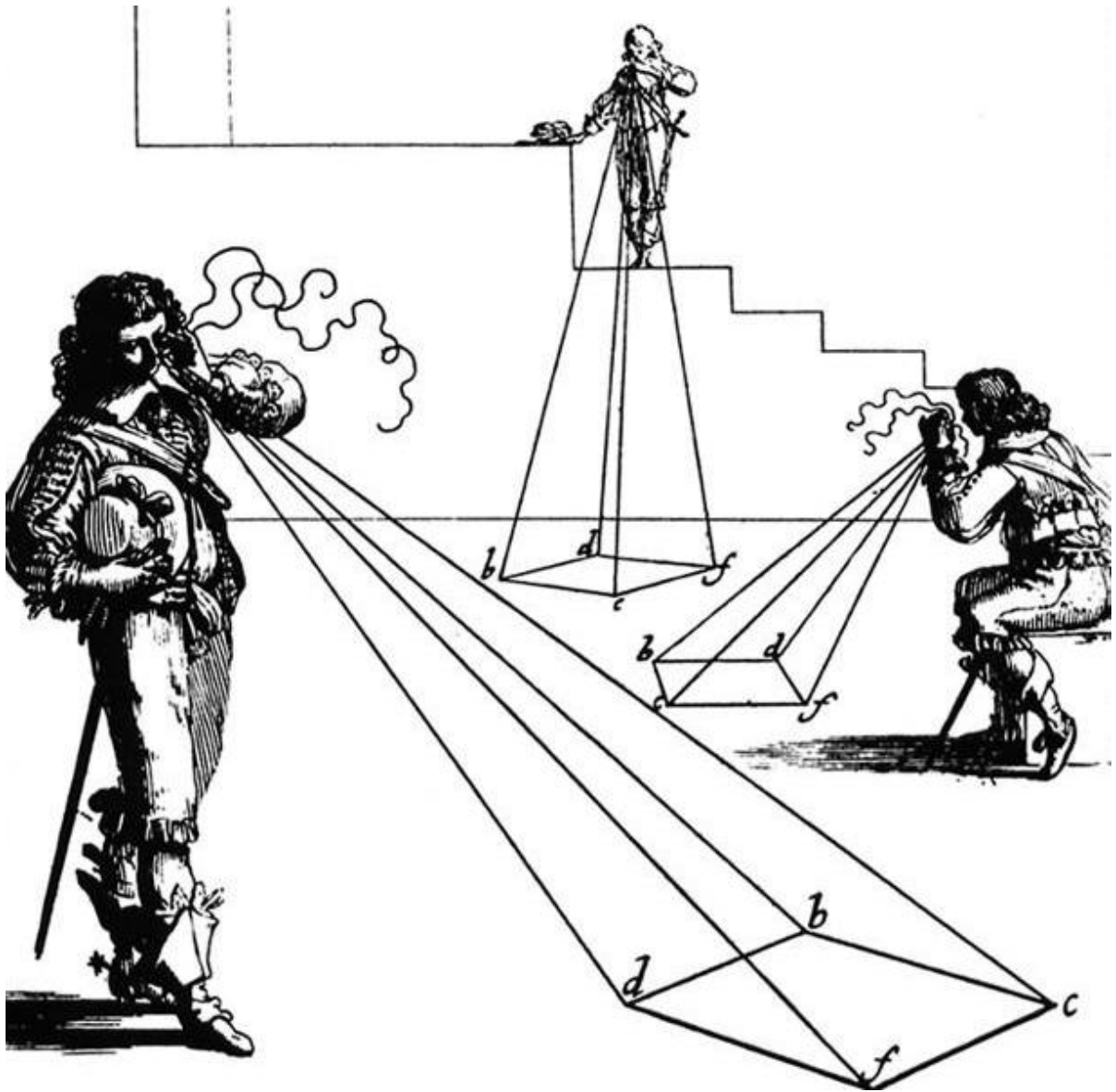


Refounding Legitimacy Toward a Global Immune System

Olivier Auber

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**Refounding Legitimacy
Toward a Global Immune System**

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The fusion of human and technology takes us into an unheard world, often described as populated by quasi-living species that would relegate us to the rank of alienated agents emptied of their identity and consciousness. I argue instead that our world is woven by simple, though invisible, perspectives, which — if we become aware of them — may renew our ability of judgment in order to maintain our autonomy. I became myself aware of these invisible perspectives by observing and practicing a real time collective net art experiment called the *Poietic Generator*. As the perspectives unveiled by this experiment are invisible, I have called them *Anoptical Perspectives* (i.e. non-optical), by analogy to the *Optical Perspective* of the Renaissance. Later I have realized that these perspectives are holding their cognitive structure from the political origin of our language. Accordingly, it is possible to define certain cognitive criteria for assessing the *Legitimacy* of the *Anoptical Perspectives* just like some artists and architects of the Renaissance have defined the geometrical criteria that establish the legitimacy of the optical one. Finally I argue that — if we apply those criteria to the technological artifacts which pretend to autonomy or tend to invade our bodies and minds — we could move from the status of *Selected* to the role of *Selectors* in the Darwinian selection of artificial species. Therefore we could emulate a kind of Global Immune System that would prevent the takeover by some illegitimate bodies. Towards which direction? Nothing less than an emerging era of ethics where systemic predation would have vanished. I propose to call this era: *Aethogenesis*.

Keywords: Evolution, Singularity, Perspective, Legitimacy, Ethics.

I will not say a word about the first Singularity of the Universe (the alleged Big Bang). I will not say much about the second Singularity that took place on earth and probably on billions of other planets: the explosion of *codes* called *Abiogenesis*, that realized the transition of a world without biology to a world with biology. Most species that emerged during the *Abiogenesis* disappeared or mutated, while a small number have proliferated into the present.

However let me take an interest in the third Singularity; the origination of the human language, and especially what could be the fourth one; the inception of two possible class of artificial living species (Artificial General Intelligence and Mindplexes).

The political origin of language

The anthropologist Cadell Last has named recently *Atechnogenesis* (Last 2015) the passage of a world without technology to a world with technology that we experience at the moment on earth and that may have also occurred elsewhere. His *Atechnogenesis* would lead to the birth of technological life.

According to the cognitive scientist Jean-Louis Dessalles, one can trace the *Atechnogenesis* back to the emergence of the genus Homo itself, that is to say, to the emergence of a proto-language among some hominids.

Dessalles puts forward strong arguments that suggests that the invention of weapons, even before the invention of fire, has been the *Singularity* that has triggered the explosion of our symbolic codes (Dessalles 2014). According to this theory, weaponry in its most prehistoric version,— that is our first technology—, would have made the social order based on physical domination brutally obsolete. For the first time, weapons would have allowed hominids to kill without risk, not only wild beasts, but above all: dominant peers.

“Once, for whatever reason, easy killing became possible among our hominin ancestors, the absolute right of the strongest instantaneously became obsolete.”

This political crisis would have put enormous stress on our species. From then on, individuals whose behavior seemed more adapted to survival in these dramatic conditions would have been selected. The selected individuals would have been those who proved their capability to both identify unexpected signs of danger, and to communicate them to peers by a hand gesture, a vocalization, and later by an increasingly articulated language.

As analysed by Dessalles, the language would have been our Evolutionarily Stable Strategy (ESS) to escape the political crisis triggered by the invention of weapons that has threaten the dominants. From then on, language would have overthrown the brute force to become our main daily activity, as well as the driving force that shapes our social structure.

The fourth Singularity?

If weapons were the trigger for our language, both continued to evolve together until they were almost inseparable, so much that we now live within their complex entanglement. Even more refined than military weapons, I believe that the mother of all weapons is now invisible, immaterial and essentially logical: that is Capital and Money.

Unlike the previous Singularity where weapons were used by dominated peers in order to threaten the dominant ones, the monetary weapon is now exclusively in the hands of the dominants (that is not the elites). Moreover, by driving the technological development, this weapon is becoming an instrument of total domination. Indeed, Capital —traditionally seen as the accumulation of stocks and means of production —has been suddenly dematerialized in the form of complex economic and symbolic values activated by robots and Artificial Intelligence working for an ever smaller number of people; i.e. the *Vectorialist Class* which owns the vectors of our interactions (Wark 2004).

Who can not see that this exponential concentration leaves around vast desert areas, where currency as other economic values are in the best cases maintained under perfusion? The monetary code, based on its mode of creation by debt (Graeber 2013), appears more and more like a carnivorous operating system that inevitably leads to destruction. It is as if its runaway allows a kind of quasi-living system to practice a systemic predation of our species. That is to say, it can kill safely, blindly and indiscriminately our fellow humans (as well as animals), whatever their social ability, to the point that the ancient order, based on our language, seems to become obsolete.

Our species seems to be submitted to a new political stress, similar to the one which led to the invention of language, but in a reverse direction. What is this phenomena of such a magnitude, if it is not the announcement of a new Singularity?

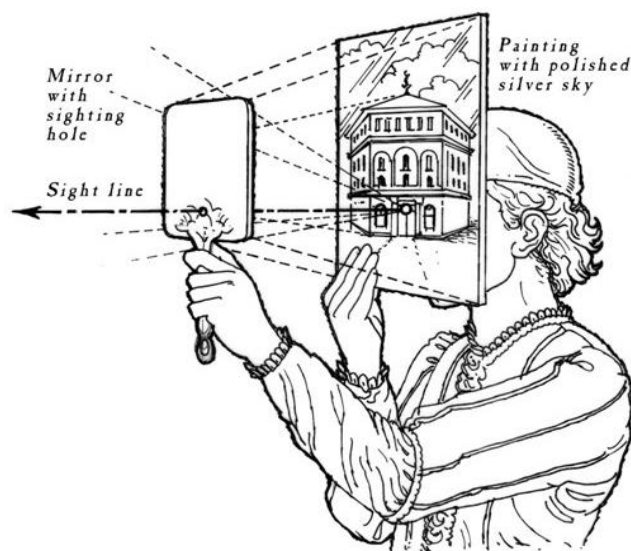
Some researchers think that the coming Singularity will target this monetary crisis (Laborde

2010). Indeed, the inception of *Alternative Currency Models*¹ (ACM) could boot a completely different monetary order. But ACM — if controlled by some Artificial General Intelligence (AGI) — could also reboot an even worse domination. No doubt that ACM are new weapons that we have to control in a certain perspective.

At present, *Distributed Autonomous Organisations* (DAO) emulated by ACM are popping up everywhere like spontaneous generations of artificial living species within a transitioning ecology. They compete with one another, as they try to proliferate on the same playing field of our economic relations. We know that they will combine, mutate or disappear until a new revitalized ecosystem emerges. Among different scenarii which I will explore in the last section of this paper, is hiding the pathway of our Evolutionarily Stable Strategy. I argue that all is a question of Legitimacy. How to detect it, build it, select it?

Anoptical perspectives as a pattern of cognitive awareness

To assist us, we can try to observe a fact relatively unnoticed since the beginning of the Industrial Revolution, particularly since the emergence of telecommunications: it is the inception of two invisible perspectives that are driving the topology of our networks. Since these perspective are invisible, I propose to call them *Anoptical Perspectives* (i.e. non-optical) by analogy to the *Optical Perspective* of the Renaissance (Auber 2001).



Filippo Brunelleschi (1377 – April 15, 1446) was an Italian engineer and a key figure in architecture. He is famous for his two panel paintings illustrating for the first time around 1413 the geometry of the optical perspective.

¹ Bitcoin, IEML, Ethereum, MaidSafe, Bitnation, OpenUDC, Ucoin, Bitproof, complementary currencies, hypothetical Facebook or Google currencies, etc.

Just like the Brunelleschi's experiment has demonstrated the *Optical Perspective* at the beginning of the Renaissance, the observation and the practice of a very simple netart experiment called the *Poietic Generator* may unfold the *Anoptical* ones.

The *Poietic Generator*² allows a large group of people to perform a real time collective interaction over a network. The experiment can run either on a centralized or on a distributed network. In both cases, the *Poietic Generator* achieves seemingly the same kind of human interaction: a feedback loop between the individuals and the group produces an emergence of unpredictable shapes that can be seen and interpreted by all.

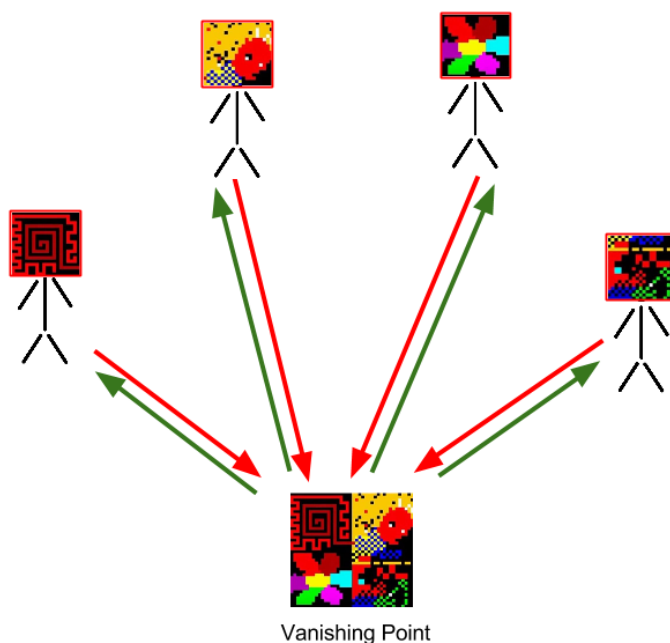
The *Poietic Generator* may be seen as a generic model of multiple complex systems such as informational, financial, urban, ecological networks into which everyone is involved daily. Indeed, the networks that determine every economic and symbolic value, can operate according to two architectures, either centered or distributed. But unlike these systems, often opaque about their prerequisites, their rules and infrastructure, the *Poietic Generator* is perfectly transparent: everything is known or knowable, in particular the fact that it operates either centrally or without any center.



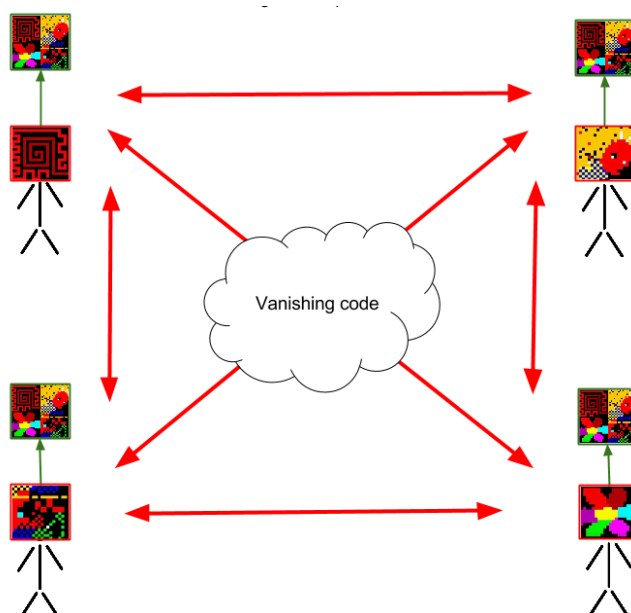
Poietic Generator. First outdoor display.
Brussels 2013.

² Poietic Generator: <http://poietic-generator.net>
http://en.wikipedia.org/wiki/Poietic_Generator

In the case of a centered network architecture, one can speak about a *Temporal Perspective (TP)*: the center is the physical place where the network's subjective time emerges moment by moment by the interaction among its members. One can call this physical place: a *Temporal Vanishing Point*. For example, that could be a server.



In the case of a distributed architecture, one can speak about a *Digital Perspective (DP)*: an arbitrary digital code guarantees the emergence of the network's own subjective time in each of its nodes. One can call this code: a *Vanishing Code*. That could be for example a Multicast IP address, a hashtag, a blockchain, etc.



The two *Anoptical Perspectives*, unveiled by the *Poietic Generator* over two different types of networks, share numerous topological and symbolic attributes with the *Optical Perspective*. As the latter is working according to some geometrical rules, the *Anoptical Perspectives* are working according to cognitive ones.

In particular, in both network architectures, the *Vanishing Point/Code* is the symbol of the infinite and the unknowable. Indeed, even if it is perfectly defined and/or located — the server is somewhere, the source code of the network is accessible and readable — the emergence of the global image/phenomena remains unpredictable, even if one can observe some emergent recurrent patterns.

The Vanishing Point/Code is also homologous to a certain *Point of View* — analogous to the painter's eye in the *Optical Perspective* — that defines the set of rules of the network. In the case of the *Poietic Generator's* experiment, this is simply me. In this regard, we can talk about the notion of *Legitimacy* : it is possible to define a *Legitimate Anoptical Perspective*, just as painters and architects defined the *Legitimate Optical Perspective* during the Renaissance.

The Legitimacy of the *Anoptical Perspectives* can be observed in the conditions that determine the feedback loop between the local agents and the global emergence. One can consider as a first approximation that — if the feedback loop is thoroughly achieved without any external manipulation, that is: if each agent of the network can observe its own input among the other ones — then it is possible to pretend that the Anoptical Perspective is legitimate. In that case, one can trace this legitimacy back from the patterns that emerge from the Vanishing Point/Code. The global network behaves like an autopoietic system with an *Operational Closure* (Maturana & Varela 1992): that is a pure living organism.

On the contrary, the Legitimacy of the *Anoptical Perspective* is not achieved in the case where some external manipulation somehow breaks or disturbs the feedback loop by injecting some alien data or modifying, hiding or retaining some parts of the agent's inputs. In that case, we can say that the agents are “alienated” in the sense defined by Heinz Von Foerster (1974), that is in short: They can not recognize or observe their own trace among the whole. One can trace the manipulation back in the patterns designed by the system, even though it is difficult because the network behaves like a quasi-living organism; that is an organism that mimics life according to a certain model of life injected by the author(s) of the manipulation,—consciously or not—.

Feedback manipulations are called by my friend Florence Meichel: Noloop³. She finds Noloops in

³ Meichel F. Noloops : <http://florencemeichel.blogspot.co.uk>

every corners of the human activity (industry, media, finance, politics, religion, science, and above all “social networks”). Of course, Noloops are numerous because “third order structural couplings” (Maturana & Varela 1992) between systems are everywhere. Some Noloops are well known and somehow tolerable, some other are hidden and ethically highly problematic.

Upon this basis, let me try to define more precisely the notion of Legitimacy of the *Anoptical Perspectives*, not in philosophical, moral, political or legal terms, but in cognitives ones.

Three criteria of legitimacy (A, AB, ABC)

Noloops refers to the questions of cheating and autonomy. These notions can be considered in the framework of Dessalles’ model of the human language that I take the risk to summarize in a single sentence: “signaling unexpected events⁴ allows the individuals to strengthen their social network in order to reduce their chance to be killed by surprise.”

Some peers choose an “honest signaling” strategy. Their main quality is “to detect inconsistencies or to restore consistency”. The peers who show this ability among other qualities, are endorsed as friends in the highest priority and become some sort of “elites”. On the other hand, some other individuals choose to cheat in order to get a dominant position in a less costly manner.

Basic cheaters are the ones who over signal irrelevant events to get some attention from their peers or some advantages. The latters are easily neutralized by the ones who can “restore consistency”, just by damaging their reputation. There exists of course highly various and uncountable cheat strategies that are far more difficult to detect. Countermeasures are also numerous.

Nevertheless, one thing is not considered in Dessalles’ framework so far: cheating strategies may apply to the vectors of the signaling activity; nowadays that is networks, and technology in general. Yet, we can try to classify these cheating strategies into the framework of the *Anoptical perspectives*. Cheating can intervene at three levels:

- 1) Peer level,
- 2) Network level,
- 3) Vanishing Point/Code level.

⁴ Simplicity Theory: <http://www.simplicitytheory.org>

Here are some examples:

| | |
|----------------------------|--|
| Peer level | Over signaling, Fake, Noise injection, High Frequency trading, Mult identities, Identity theft, Virus, Groupthink, Harassing, etc. |
| Network level | Spying, Real Time Filtering, Deep Packet Inspection, Intentional Network outage, etc. |
| Vanishing Point/Code level | Institutional bias, Nudge, Fiction, Ponzi scheme, Lying algorithms, Irrelevant model injection, Lobbying, Star System, Monopoly, Take over, Paradigmatic blindness, etc. |

All these cheating strategy applied to the vectors of our signaling activity tend to deprive us of our feedbacks or to misled us. As we are “alienated”, even if we have a great ability to “restore consistency”, we can not be recognized as friends by the others (and eventually access to a position of elite). On the contrary, in the ecological niches defined by these cheating activities, dominant positions are definitely taken by cheaters (who are cheating consciously or not).

In short, this is a cognitive explanation of the new political stress to which we are facing as a species: Dominants prevail upon elites that might restore consistency. That leads to an overall consistency failure; a global mismatch between the behaviour of our organization and the state of its environment.

In these dramatic conditions, peers have to find urgently some countermeasures to recover their autonomy. Here is proposed three basic criteria that could help agents/ peers/ users to evaluate the legitimacy of any given centered or distributed network (TP or DP) to which it/she/he belongs:

- A) Does any agent A have the real right to access the network if he requests it? Can A leave the network freely?
- AB) Is any agent B (present or future, including agents that conceive, administer and develop the network) treated like A?
- ABC) If agents A, B and C (where ABC is the beginning of a multitude) belong to a network that meets the first two criteria, are they peers? That is, are they able to recognize, trust and respect each other, build common representations and common sense?

Notice that the above mentioned criteria of Legitimacy are in line with many other attempts of mankind to restore some consistency. They propose a reformulation appropriated to networks of

some ancient and somewhat forgotten principles, for example those of the French Republic: LIBERTY — EQUALITY — FRATERNITY.

They are also expanding the Free Software's principles as defined by Richard Stallman to a whole information system.

Toward a Global Immune System

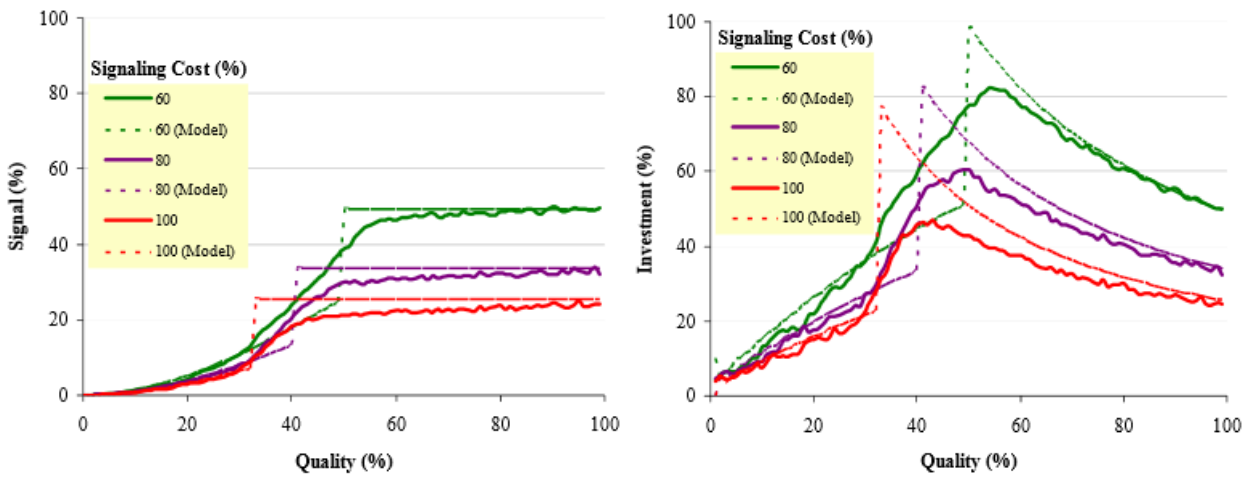
As it is well known, the *Optical Perspective's* literacy took about two centuries to spread the world after its inception by Brunelleschi in the early 1400s, and that triggered enormous effects. It became quickly the main tool that we used to project ourselves in time and space, that is to evaluate distance, time/energy needed to travel across, as well as resources that may be gathered. This Literacy was certainly the relevant intellectual tool for a time of conquerors, explorers and builders.

This is no longer the case as it has been announced by the deconstruction of the space made by major artists of the twentieth century: *Anoptical Perspectives* that are driving the development of networks definitely prevail upon the Optical one.

Unfortunately, despite the warnings, the Optical Perspective still remains the basic imaginary of our current society. In particular, it affects directly the current monetary system. Everything happens as if our overall social network as well as our minds were considered as territories that can be conquered, occupied and exploited. In this regard, the *Emotional Capitalism*^[5] (Pierre & Allosing 2015), — that is the total industrialization of emotions —, seems to constitute a relevant description of this dramatic drift.

The *Anoptical Perspective's* literacy could be a countermeasure to that drift. To understand the phenomena it may trigger, let us consider the research of Dessalles^[6] again.

By following his basic assumptions about the human language, Dessalles deduces a mathematical model of our signaling activity that have been validated by actual data. In short, the level of our own social signals depends on our personal social networks in a surprising manner. One can observe three class of people on Dessalles' diagrams:



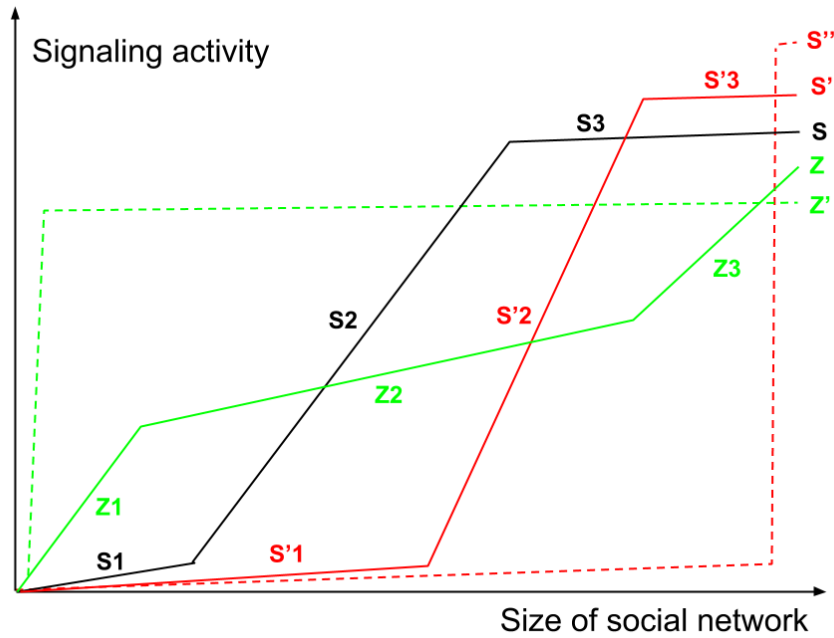
Signal level (A) and investment in communication (B) as a function of the size of the individual social network (Quality).

In Dessalles, J-L. (2014). Optimal Investment in Social Signals. *Evolution*, 68 (6), 1640-1650. P.9.

- *Left section*: a class that has a poor social network and a low signaling activity.
- *Central section*: a competitive class where the signaling activity evolves linearly according to the social network's size.
- *Right section*: a non competitive class of dominants where the social network's size does not impact the signaling activity.

Consequently, there is strong evidence that the shape of our social hierarchy is itself an aspect of Evolutionarily Stable Strategy (ESS). From that moment on, the question is whether the industrialization of our overall social signaling activity implemented by centralized or decentralized networks have any impact on our ESS, and whether the awareness of the *Anoptical Perspectives* may produce a slight change?

Let me propose four evolution scenarios of our current ESS on the brink of the fourth Singularity:



Four evolution scenarios of our current ESS curve S (black) on the brink of the fourth Singularity.

S' (red): Concentration by centralized networks.

S'' (dashed red): Artificial General Intelligence (AGI).

Z (green): Anoptical perspectives literacy. Z' (dashed green): Mindplexes, Global Brain.

Scenario #1: the concentration of the economy in the hands of a few tend to transform the initial black curve S into the red one S'. That would mean:

- Section S'1: More people with a poor social network and a low emittance.
- Section S'2: More competition among the competitive class.
- Section S'3: Proportionally less people in the non-competitive dominant class.

This transformation $S \rightarrow S'$ does not change the S shape of the curve. So there is no actual transformation of our ESS in that scenario, even if we extrapolate S' into S'':

Scenario #2: S'' suggests that some Artificial General Intelligence (AGI) — eventually controlled by a semi-God — had taken over the whole human species and transformed all individuals into some asocial zombies. Say it is not really a desirable scenario, though some people dream about it as the only solution to solve human problems.

Scenario #3: Imagine that one day some scandal points out the disastrous ethical consequences of centralized networks and their illegitimate *Temporal Perspective* (the exploitation by a few of the emotions of the masses). Imagine that thereafter, some Anoptical Perspective's literacy begin to spread the world pushed by the vital need of the people to recover a certain autonomy.

Imagine that these events trigger a tipping point where the second type of *Anoptical Perspective* (the *Digital Perspective*) attains the dominant position. Hence, S could mutate into Z that has an inverse shape. That would mean :

- Section Z1: A high rate of socialization for these people.
- Section Z2: Less competition among the middle class. Enjoy!
- Section Z3: A competitive elite would replace the non-competitive dominants.

The inversion of shape S->Z would suggest that a slight change of our Evolutionarily Stable Strategy has happened in order to restore the consistency and the autonomy of our society. For a second time, our language would have prevailed upon the brute force and the misuse of our weaponry.

Scenario #4: One can also extrapolate Z to Z'. Z' suggests the formation of some sort of Mindplexes (Yudkowsky & Goertzel 2003), where Artificial Intelligence and human mind have combined with each other. Mindplexes would pave the way to the Global Brain⁵, where radically new languages would be practiced, between humans, and between humans and machines⁶. According to Francis Heylighen, the *Global Brain* would be a kind of *Return to Eden* (Heylighen 2014).

This Z->Z' hypothesis would put definitely the world under the reign of the *Digital Perspective*. Its *Vanishing Code* would be some Alternative Currency Model (ACM) that may be seen as a new weapon that would enforce the new social order. Nevertheless, it is not difficult to imagine that legitimacy issues would be very difficult because of the indescribable complexity of distributed networks.

I argue that nothing but the awareness of the people themselves may prevent, at their level, the takeover by some misleading systems or predatory artificial species. If one day, the *Global Brain* is a reality, it will need a *Global Immune System* to ensure its viability. This immune system would involve each of its agents (that is us) to evaluate at all level, at all time, the *Legitimacy* of all its components.

⁵ Global Brain Institute: <http://globalbraininstitute.org>

⁶ IEML (Information Economy Meta-Language) is an attempt by Pierre Lévy to define that kind of language. <http://ieml.org>

As network agents structured by the *Anoptical Perspectives*, we are most often in the position of the *Selected*, leaving them to shape our imagination and our judgments. On the contrary, by becoming aware of these perspectives and questioning their *Legitimacy*, we can choose to be in the position of the Selectors of quasi-living species that proliferate on networks.

This *Global Immune System* would be finally the relevant and proportionate update of our Evolutionarily Stable Strategy. With the help of everyone, that could lead to a new era which could be called *Aethogenesis*: from a world without ethics to a world with ethics. Finally, that would trigger a new explosion of *codes* respecting the beings of all species, starting with our own.

Olivier Auber (born 1960) is a French independent artist and researcher. He is best known for his project *Poietic Generator* and for having introduced the concept of *Anoptical Perspectives* (Temporal, Digital) within the fields of art, network theory, and digital humanities.

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