ARTECH 2021

HYBRID PRAXIS – ART, SUSTAINABILITY & TECHNOLOGY

PROCEEDINGS OF THE 10th INTERNATIONAL CONFERENCE ON DIGITAL AND INTERACTIVE ARTS

13-15 OCTOBER 2021 AVEIRO PORTUGAL

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ABSTRACT

This paper aims to discuss extensively the system of relationships among several types of art and branches of science, under a political perspective discarding any theological/capitalist stance. Once established a quasi-equivalence between creativity and curiosity, a number of features of the creative process are examined, focused firstly on the mind of one individual, and lastly, on the web of interactions anchored in a group of people. Then, mainstream statistics equated with some sort of commercial numerology - is criticized on the grounds of the unrealistic and unverifiable assumptions it relies upon. As opposed to this, Correspondence Analysis as a method for assumption-free data treatment is put forward, allowing to explore the qualitative variables that are dominant in the fuzzy areas of art and of science of complexity. Two examples of fresh artistic experiences are given, one in the realm of writing, the other, of painting, both demonstrating the concept of practical poetry. The first epitomizes the ways how self-imposed rules that preside over the creation of a literary text may be a source of joyful gratification, based on a cooperation involving the writer and reader. The second demonstrates a process for visual artwork production drew on the collective labor of a set of robots, each one of which can only communicate with the others across the canvas where they evolve. Specific examples of the recombination of science, art, architecture, and urbanism are presented, under a radical perspective that rejects all forms of capitalist power, as it appears in current crisis.

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CCS CONCEPTS

• Applied computing; • Arts and humanities; • Architecture;

KEYWORDS

Hybridization, Recombination, Aristotle, Spinoza, Oulipo, Painting Robots, Playful Dissent, Pandemics

ARTECH 2021, October 13–15, 2021, Aveiro, Portugal, Portugal

© 2021 Association for Computing Machinery. ACM ISBN 978-1-4503-8420-9/21/10...\$15.00

https://doi.org/10.1145/3483529.3483690

a@ist.utl.pt ACM Reference Format: Jorge T. Ribeiro, Henrique G. Pereira, and Leonel Moura. 2021. Immanent Curiosity/Creativity in Science. Art. and Politics. In 10th Interna-

nent Curiosity/Creativity in Science, Art, and Politics. In 10th International Conference on Digital and Interactive Arts (ARTECH 2021), October 13–15, 2021, Aveiro, Portugal, Portugal. ACM, New York, NY, USA, 8 pages. https://doi.org/10.1145/3483529.3483690

1 INTRODUCTION

Digital Art stems from a tantalizing hybridization of aesthetic proficiencies with cybernetic technologies fueled by a new kind of science in which complexity plays a major role. Such hybridization depends on an ingenious combination of hard – but rigid – quantitative methods with soft – but flexible – storytelling-like procedures. This is a powerful way of making sense out, and making use, of complex systems, where deterministic chaos lies in the core of their behavior. Additionally, if any transaction business is eradicated from all phases of digital art practice, then such an activity encompasses – most of the times – a disruptive trait, driven by creativity.

For the sake of productiveness, any conjecture on creativity must obviously rely on a solid background defining the scope of the concept. In conformity with the view put forward by Dawkins [1], the approach exposed in this paper restrains by design the extension of the creativity concept, by imposing an immanency clause that excludes metaphysical concerns.

Examining now – under a metaphysical/theological perspective – the thought of a foremost philosopher like Spinoza, it is remarkable that the word "GOD" crosses entirely his vast oeuvre [2]. But his concept of GOD is far away from the one shared by monotheist religions, which perceive GOD as a Supreme Being pre-existing to the world created by his will. Hence, Spinoza's conception of GOD is fully immanent, insomuch as Nature is an autonomous reality (which leads clearly to the cosmic GOD praised by Einstein).

Leaving philosophy aside (in the good company of Spinoza and Dawkins), the practical realm of this paper is revisited at this point by leaving aside all 'innovation' features that can somehow be associated with profit, which is the foundation of all autocratic or liberal capitalist systems. At this regard, in addition to the evident link between tyranny and metaphysical dogmas, it is worth noting that a loose parallel can also be established between economic neoliberal ideologies and religion transcendental beliefs. As an example of this, it is noteworthy that the idea of placing a holy disguise into the prevailing neoliberal order was conveyed to the public, given that such an order seemed to survive to the economic devastation caused by the financial 2008-2009 crisis that was triggered by its own endeavor.

On the other hand, it is argued here that creativity cannot flourish without curiosity, as defended by Foucault [3]: "... curiosity evokes the care one takes for what exists and could exist..." This account

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boosts creativity by horizontal semantic sweeping, put out of supernatural preoccupations. Unsurprisingly, conservative powers that operate against immanent creativity are also in the front line of the curiosity battlefield. As a central example of this, arises the Christian Creation myth as the basis of the Fall, disclosing how the transgressive aspect of curiosity is an insistent theme in Christian theology. In contrast with such a phantasmagorical narrative, emerges in the thirteenth century a concrete line of thought based on Latin translations (via the Arabic) of the works of the ancient Greeks, particularly Aristotle. This intellectual movement, known as scholasticism, spreads through European Universities (for instance, Paris, Montpellier, Oxford, Bologna, ...), giving rise to a type of realism in the visual and plastic arts linked to Aristotelian advocacy of 'compilations' of natural things and phenomena, as the basis of a particular style of scientific method [4]. This curiositydriven method is praised by Umberto Eco in his novel "The Name of the Rose", where a monk questions about the Aristotle's book on comedy, which had been lost.

Later in the sixteenth century, as a counterpart of the 'official' scientific method developed by Sir Isaac Newton - and driven by a variety of gravitas pointing to hubris, probably associated with the gravitational force attracting him to the Royal Mint, as coin producer -, emerged a parallel movement of technological sort, associated with arts and crafts. A particular instance of this movement may be found among the followers of the German scholar Georgius Agricola, who wrote a fundamental text on mining and metallurgy - "De Re Metallica" (1556) -, where awareness of how natural resources are the source of material life is elaborated, under a (literal) down-to-earth viewpoint. This viewpoint makes him an Aristotle's admirer, and an Alchemist's adversary. He was the first to find natural sciences upon research and observation, as opposed to fruitless speculation [5]. In contrast with top-down Newton's method - that includes god as a masterful creator -, Agricola's modus operandi relies on trial-and-error procedures guided by practical experiences that are not meant for the corroboration (or falsification) of an abstract theory, but to produce useful objects, the beauty of which lies in everyday life shapes, instead of angelical speculative forms.

Moving now to the twentieth century, a case can be made that contemporary non-profit scientific research relies on a curiositydriven 'discovery'. As an example of this, let us 'deconstruct' GPS technology, based on a number of satellites orbiting around the planet. What is salient in this regard is that a GPS would not work (it would give the wrong position) if it were not for the theory of relativity, as created by Einstein in 1905 (and it is well known how intensely Einstein praised modest curiosity, as depicted worldwide by pop culture throughout examples of posters like Fig. 1).

Under the immanency perspective, social curiosity/creativity may drive some movements of disruption against the status quo. Such movements, particularly those that emerged in this century in the sequel of French 68 rebellion, display in general a playful character, in addition to their disruptive traits. It can be argued that this playful character – showing a remarkable sense of humor – emerged in the framework of Huizinga's Homo Ludens [6], as an antidote to the tremendous oppression crafted by contemporary capitalism. Another novel feature of the above acknowledged disruption movements is that they tend to incorporate art – in a vast variety of

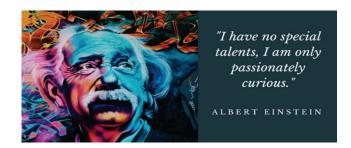


Figure 1: Due to his modesty, curiosity did not kill Einstein.



Figure 2: Gilets Jaunes demonstration in Lyon (2018).



Figure 3: Extinction Rebellion demonstration near Heathrow (2019).

configurations – into the protest activities carried out in urban territories. Fig. 2 is meant to be an illustration of this, referring to the French Gilets Jaunes campaign directed (mainly) against state power on road traffic, and incorporating gastronomic artworks.

Fig. 3 relates to the Extinction Rebellion movement, pointing to the need of rallying against climate change induced by contemporary capitalism (note the incorporation of joyful theatre performances into demonstrations, as a creative act aimed at exuberantly complementing dissent action).

Movements like Gilets Jaunes and Extinction Rebellion – in spite of their differences (stemming chiefly from some kind of 'parochial flavor' of the former, in contrast with the alleged 'universality' of the latter) – may be seen under a common angle, which is supported by the fact that both movements aim to take possession of the 'streets' (and their territory is actually made of tangible urban paths). At this regard, the social group prone to occupy the streets in a contemporary style was coined in [7] as the "Square People" (obviously, they are in the opposite side of their so-called – in American slang – "square" counterparts).

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2 BIOLOGICAL, ANTHROPOLOGICAL, AND SOCIAL FEATURES OF THE CREATIVE PROCESS

Nowadays, life and death are defined in medical terms by the presence or absence of brain activity. That makes sense because the brain gives each individual their unique qualities, among which creativity is a key asset. Creativity is therefore a general ability of humankind, which can be used in an infinite variety of domains, insomuch as the brain is in charge of life. The delusion that creativity was 'located' in the right side of the brain - being a left-brained person mostly analytical and methodical in his thinking - was wiped out from neurosciences, as reported in [8]. In fact, creativity represents a glowing demonstration of the ability of the two hemispheres to work together, as displayed in Fig. 4 (1). Fig. 4 (2) expresses the same idea, depicting in addition the intricate structure of the entire brain, at the level of connections between neurons. Such structure is largely prescribed by experience in the womb and genetic code. As aging matures, experience continues to imprint unique changes on the brain's neural connectivity, which are likely to entail some shifts in creativity usage.

In what concerns anthropology, viewed within the (narrow) sense of the study of the evolutionary path leading to Homo Sapiens, it is obvious that, in each step of natural selection, there is a certain increase on the creativity 'supply' that can be delivered during the species' lifespan. Moreover, curiosity is prone to intervene at each step of the evolutionary development, insomuch as the individual sweeps his environment, looking for some form of fitness. If this fitness is viewed under a eugenic perspective – as it is ironically depicted in Fig. 4 (3), where the driving force is the appeal of the capitalistic market [9] – then Homo Sapiens loses all his immanent creativity/curiosity and is ruled only by greed as a form of god.

Fig. 4 (3) may also be viewed as an allegory of the problem known as "the tragedy of the commons", which occurs whenever individuals neglect the well-being of society in the pursuit of personal gain, as is the case for resources like water and habitable earth that are owned privately. In contrast with the attitude underlying such a problem, creativity is perceived in this paper - similarly to the citizen's science viewpoint - as a common good, in the sense that it is impossible for one user to exclude others from using the good. Along the same lines, it is claimed here that social creativity observes the non-rivalry condition, which means that consumption of a resource by one person does not reduce its amount available for others. In other words, this stands for the non-zero-sum game condition, which describes a situation in which the interacting parties' aggregate gains and losses do not sum up to nil. In fact, social creativity is a key factor in the win-win games that flourish in autonomous communities that challenge capitalism in a witty way.

It goes without saying that social creativity does not grow exnihilo, it is derived from the remix of experiences and people interaction, as symbolically illustrated in Fig. 4 (4). By the same token, the combination and exchange of a variety of elements from different realms are issues that boost social creativity. Each individual extract from the footprints of his experience pieces of information, sensations, or knowledge in different realms, recombines them and communicates a fuzzy outcome to other people. In so doing, he adds

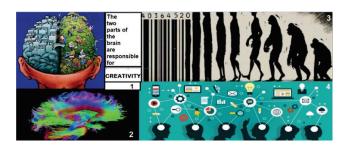


Figure 4: Visual elaboration of creativity.

knowledge to collective knowledge, exemplifying the motto "The Whole is more than the Sum of its Parts", which is a crucial hint for the emergent behavior in complex systems. Moreover, this kind of collective knowledge – shared by different minded individuals as a weapon against capitalism – develops a hybrid character, which is a new form of the interchange that always occurs whenever a civilization meets another, in terms of cultural trade [10].

3 NUMEROLOGY VS. EXPLORATORY DATA ANALYSIS

Quoting Wikipedia, "numerology is any belief in the divine or mystical relationship between a number and one or more coinciding events. It is also the study of the numerical value of the letters in words, names, and ideas. It is often associated with the paranormal, alongside astrology and similar divinatory arts". On occasion, mathematicians are led by their abstract formulations, and enter the sphere of pure fantasy, as it is the case – for instance – of Underwood Dudley [11], who uses the term numerology to "analyze" stock market time series (this is a sharp example of how capitalist ideology exploits any misleading belief in its favor).

A broader example of this is illustrated in the collage of Fig. 5, where advertising makes use of the orphic numerology that lies on the roots of the (apparently) multifarious Almada Negreiros's oeuvre (which is, nevertheless, driven by some kind of mystical unitary principle).

In a similar vein – but within the restricted area of theoretical mathematics –, it may be discussed how obsession with a phantasmagorical idea of "beauty" in formulas and theorems is prone to lead to some kind of esoterism. As an example of this, the work described in [12] and concerning the role of symmetry in Group Theory gives rise to some sort of theological thinking, in particular when "palindromes" (reading the same from left to right as right to left) are detached from an immanent setting and taken to the (metaphysical) air.

In a straightforward way, the artwork shown in Fig. 6 contributes to a clear demystification – through a (apparently) plain storytelling single image – of any kind of attitude that intends playing god (or commerce) with numbers, as it is the case with numerology.

In contrast with the line of thought involving any aspect of numerology, it is claimed here that a data driven approach to science is the most productive strategy to deal with quantitative variables, under a non-capitalistic viewpoint, which obviously excludes the Big Data style (in which Big Brother is always watching you). Moreover, it is obvious that qualitative variables – which were (apparently) ARTECH 2021, October 13-15, 2021, Aveiro, Portugal, Portugal



Figure 5: Numerology (2 in 1).

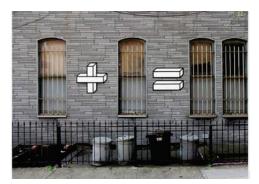


Figure 6: Against numerology!

excluded from the 'official' scientific method, being nevertheless launched though the rear door as a transcendent "goal" - can now be equated with quantitative ones, for the same concept denoted "DATA". This is one of the basic points of Exploratory Data Analvsis, under Benzecri's perspective as developed in [13], where instead of arbitrarily converting qualitative into quantitative - the reverse is performed. In so doing, (provisional) significant classes for each quantitative variable are obtained by examining the respective empirical histogram in light of the context where the problem at hand is positioned. The next step is to input the complete array of data - from then on, under a common qualitative arrangement - into the Correspondence Analysis algorithm, whose results are (very) sensitive to differences in data initial codification. Then, such a codification is modified by moving quantitative variables class boundaries, or by aggregating (or splitting), the initial categories assigned to qualitative variables. The process continues by trial-anderror until an immanently satisfactory configuration is reached, for responding to the requirements involved in the problem at hand.

The above discussed data driven approach is off the statistical science mainstream, which is based on a top-down methodology. Such a methodology relies largely on probability distribution functions fitting relative frequency histograms that are constructed by using samples of quantitative variables, assumed to refer to a certain population from which the samples were extracted. The conundrum of inference, which is a main point in statistical science mainstream, derives from the need to assume some form of probability distribution function, namely the well-known bell-shaped Gaussian curve (of which the saying goes that it is used by theoretical-minded Jorge Ribeiro et al.



Figure 7: Perec, a "palindrome" for OULIPO, and combinatory explosion of poems.

people on the grounds of its "practical" value, and the reverse for practical-minded people). Based on this (often hidden) assumption – veiling the widespread asymmetry of verifiable distributions, namely referring to socially determined variables like revenue –, statistics performs different sorts of uncanny accomplishments, like hypothesis testing and parameter estimation. Those accomplishments may sustain in a way or another the argument that statistics is faithful to its etymological meaning, linked to the idea of "State".

4 WRITING UNDER CONSTRAINTS

It is a commonplace perception that writing must obey to a variety of constrains. These range from the stock of words available (or allowed) to the syntax that organizes them in phrases, from phrase formatting to visual arrangement in pages. This visual pattern may include sometimes pictures, in spite of Flaubert's disapproval of intermingling words with images, as pointed out in [14], and explained by a transcendental drive that regrets Bovary's eternalness in contrast with her author's transience. The alleged power of the authorship is challenged by the Barthesian idea encapsulated in the "The Death of Author" formula.

Pushing ahead Barthes's idea, the group Ouvroir de Littérature Potentielle (OULIPO) emerged in France of the sixties, close to Raymond Queneau productions. Such productions disputed the automatic subconscious surrealism writing, as proposed by André Breton, who anathematized Queneau's oeuvre on the grounds that he had discarded "inspiration" (among other pretexts). In fact, Queneau offers an immanent literature, exploring its objectivity and material dimension, under a series of self-imposed constraints. These may be of mathematical kind, relying – for instance – on the combinatory theory of numbers, or may also be driven by semantics.

A very salient 'member' of OULIPO was Georges Perec, who developed (almost literally) ad infinitum the power of word combination, under lexical, syntactical and visual constraints that lead to a playful "game of structuralism significants", along the lines of Huizinga's Homo Ludens. In particular, the "palindrome" that was found in Turney, p. 61 under a transcendental attitude acquires in Perec's oeuvre a funny characteristic, as illustrated in Fig. 7, where the "potentiality" of OULIPO's drive is also symbolized.

Moreover, the immanent relationship between writing and reading is a crucial point in OULIPO's theory, relying on the scientific research of linguistic structures (occasionally under a mathematical configuration). This is a part of the pleasurable game between

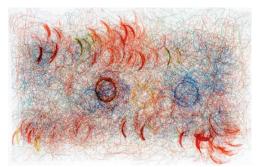


Figure 8: Unmanned painting, 050517, 2017, ink on canvas, 280 x 470 cm. Courtesy Collection Foundation Guy & Myriam Ullens.

author and reader, as put forward in [15], where Perecs' praise for "lists" – as a spinoff of Aristotle's compilation – meets urban space (without looking for any kind of synthesis).

5 UNMANNED PAINTINGS

From the combination of curiosity with the possibility of triggering emergent processes based on swarms of autonomous robots, a new kind of unmanned painting project came up in the first years of this century, as described in [15]. It differs from previous attempts to use machines to make art, as it is the case of Tinguely's metamechanics or the pioneering digital works by Harold Cohen. In fact, "unmanned paintings" produced from 2004 (Fig. 8) to 2020 (Fig. 9) along the lines given in [16] are meant to – as much as possible - remove from art making processes the human factor, driven by "any moralist or spiritual ambition, or any purpose of representation" [17]. Furthermore, in contrast with utilitarian 'service robots', every form of fitness function leading to a goal is removed from the software design of those art-making robots, driven solely from the Corto Maltese-like "wish of being useless" [18].

The approach described in [15] disputes most AI based art, which in fact tends to reproduce old techniques of accumulation and distortion that cannot give rise to true novelty. In contrast, the artworks created by collective robotics as portrayed for example in Fig. 9 emerge from the discrete interactions between robots and the environment, that is, the color strokes previously left in the canvas by any robot in a self-organized and indirect communication process known as stigmergy [19].

By opening the path to cultural acceptance of collective robotic art expression based on stigmergy, the unmanned paintings' project is a way of challenging the predominant anthropocentric view that is behind most harmful troubles hurting humanity, as a consequence of capitalist order. Indeed, massive extinction of other life forms, overpopulation, ecological degradation, climate change and sanitary calamities, stem from the capitalistic fabricated idea of superiority of the human species over all the other species, and from its unrestricted dominance over nature. Moreover, this view of unlimited exploitation of nature and of human superiority can only be constructed on the basis of religious beliefs disclosing the metaphysical idea that humans are globally better than other animals or, even, intelligent machines.

Figure 9: A swarm of Neo robots at work at the UCCA Museum in Beijing, 2020 (photo UCCA Museum).

6 SCIENCE, ART, ARCHITECTURE, AND URBANISM

Issues related to the topics of this Section are debated below by recombining them under an OULIPO-like structure (semantic constraints previously mentioned), and taking into account the correspondent socio-economic background.

Since mainstream science is undoubtedly put at service of the global profit-based economy, an illusory zero-sum attraction may arise among capitalism challengers, calling for some kind of people "ideology". This momentum is repudiated here in a broad sense, along the lines put forward in [20], where, in particular, "science engagée" is rejected within the particular context of "colonial anthropology", in favor of a critical reflexive discussion of science praxis. This idea of praxis is the crucial topic of Gupta's approach to science, as reported in [21]. The main point addressed in [21] is that Global South countries need to a great extent science-based knowledge (more than huge environment harmful investments). Hence, scientists are encouraged to work together with deprived Global South populations, aiming at achieving a healthy economic development, out of capitalistic track. This praxis driven science does not claim any 'unique methodology', being - conversely - guided by trial-and-error procedures, which can sometimes go close to some type of serendipity, being bottom up in its stance. Moreover, "citizen science" of this kind evokes also the property of belonging to the "commons", in the sense given in [22].

Considering now art as in its subversive side, Banksy's work may be revisited for the breakthrough denoted Girl with Balloon, involving the painting shown in Fig. 10. The above referred subversive deed consisted of auctioning at Christy's a framed copy of Fig. 10 – which was sold for more than a million pounds – and produce subsequently its self-destruction through a hidden mechanical paper shredder that Banksy – whose 'identity' is in any case 'unknown' – had built into the frame bottom. It is worth noting how the 'artist' moves playfully in the core of capitalist art market, intending to question it through a spectacular action.

As previously discussed, there is a sound interaction between science and art. Taking now a more specific view given in [23], it is worth noting how space-time Einstein's theory can be put in relation – through "Les Demoiselles d'Avignon" stylistic pattern – with Picasso's skills in the broad artistic realm, including ARTECH 2021, October 13-15, 2021, Aveiro, Portugal, Portugal



Figure 10: Girl with Balloon at the origin of a Banksy's hoax.



Figure 11: Unexpected link between Einstein and Picasso.



Figure 12: Woody Allen as the master of imagination and as a musician.

his use of clothing, as suggested in the collage of Fig. 11. Additionally, Fig. 11 also evokes Einstein's joyful notion of creativity, as well as Picasso's hell-bent in controversy, insomuch he demonizes mainstream thoughts.

As a spinoff of the clues given in Fig. 11, another 'virtuoso' of the twentieth century may come up in connection of Einstein's drive for music. This is Woody Allen (Fig. 12), who is fond of playing clarinet, on the top of being a skillful and prolific filmmaker. In this activity (whose rate of more than an oeuvre per year matches for a larger scale Picasso's more than one per day), metaphysical affairs are – most of the time – interrupted via some sudden expression of prosaic everyday reality. And when Catholic or Jewish faith emerges in his psychiatrist ruled mind, the satire turns out to be the most powerful antidote against ghosts, as epitomized in Fig. 13

Regarding music as a valid blending of science and art (as put forward, for instance in [24]), the point is made here that its ontology in metaphysical terms is constructed by ideological dominant



Figure 13: Woody Allen as a young boy surrounded by psychiatrists, bishops, and rabbis.



Figure 14: The brush tool as a weapon against suicidal traffic in cities.

authorities for the sake of misleading the subaltern classes by imposing a canonic style anchored in "high culture". In defiance to this, jazz emerged from American slaves' complaint songs. As a calling out for protest against all forms of ruling class power, it was banned from a number of American states in the 1920's, from Nazi Germany in the 1930's and from Soviet Union in the 1950's. Besides, Greek rebentika and Portuguese fado – the roots of which may be seen as sharing a similar context to jazz (in the broad sphere of the forced labor/miserable dockworkers) – were prohibited during certain historical periods, and deceptively absorbed by the mainstream pathos in others.

When visual arts are considered now in an urban setting, graffiti is deemed here as an important expression of social creativity, which generally questions the social order behind contemporary cities, namely in what concerns absurd traffic systems, as symbolically depicted in Fig. 14

In a broader approach, arts were generally a special arena for huge social conflicts, where cruel 'symbolic backgrounds' of religious starting point emerge from time to time, associated with financial capitalist power [25]. In particular, a misuse of the creativity concept may arise when it is applied to cope – in a somehow original way – with financial, legal, business-related meanders of capitalism. Furthermore, some 'artists' may contribute substantially to commercial-oriented processes that take advantage of "innovation" to compete among brands [26].

Relating at this point science with architecture under a theoretical perspective, the latter can be seen as the material organization that rules – through physical laws – the energetic fluxes controlling from below a variety of human dwelling structures [27]. In addition, when territorial features are considered, ecological landscapes arise in the relationship between architecture and the earth. This relationship, under an informational theory perspective, was put forward in [28] by the first European scientist who fostered ecology

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out of its former 'rurality' transcendental form (as in Walt Whitman or Aldo Leopold). Along a similar vein, the interdisciplinary approach developed by the neurobiologist Henri Laborit explores regulations at work at urban sociological organizations as it is the case of the city [29], paving the way to a deep connection of science to urbanism. This connection comes about when fractal geometry (put forward in [30]) is applied to describe urban patterns, as in [31].

If urban fabric is considered now as a source of practical emotive experiences, the idea of drifting may emerge, regarding a (pseudo) random walk in the urban text, performed intentionally by a group of individuals that make a creative 'recording' of their interactions with various ambiances they are immersed in, during their trajectories.

It is argued here that urban structures are a locus of improvement for civilization, as opposed to barbarous rurality. This improvement may be, not only efficient for fair trade, but it is prone to fuel also renewed centrality, promoting places of encounter and change where rhythms and time uses enable a complete and joyful usage of life, in the sense of Aristotle's "Good Life". When such an aspiration is blocked by the global capitalist power, dissension movements may emerge, like the one labelled "Ré-Architecture" (where Ré- stands for acronyms of the French "réutilisation" and "résistance", cf. [32]). This movement is situated in the context of the contemporary architectural practices based on active resistance against the status quo, supported by a recycling aesthetic (in terms of space, materials, and objects), and encouraging the proposal to match spatial transformations with social change.

7 CONTEMPORARY POLITICAL/SANITARY ISSUES

An important concept that emerges to label a new political subject that opposes to global capitalist power is "moltitudine" [33]. This new subject is placed beyond Marx's working class, (even in an ultra-leftist context of "potere operaio", as endorsed by Negri in the late 1970's), insomuch a fresh contribution of Deleuze and Foucault is included in the idea of multitude, as developed by Spinoza [34].

The nowadays Negri's theoretical approach to dispute capitalist global politics may cover the practical dissent movements discussed in Section I, namely "Gilets Jaunes" and "Extension Rebellion", in which the topic of the festive character of protest takes the place of the Spartan culture cultivated in some of the old leftist parties. That topic resumes some important approaches based on the Situationist International group theory, which include - in addition - the concepts of "spectacle", "dérive", "detournement", "poésie pratique"... [35], [36]. These concepts are combined in this paper under a variety of forms, for instance in the "spectacular" Banksy's hoax and the drift experience described in Section VI, under the social creative view given in II. Furthermore, an example of "détournement" is given in Fig. 13. On the other hand, Sections IV. and V. tackle the "practical poetry" issue, for the cases of a writing and visual forms (in the former, rhythm is imposed by constrains, in the latter, it emerges from stigmergy).

It goes without saying that a former participant in Situationist International activities, Raoul Vaneigem, was in the cutting edge of the political/pandemic discussion, offering – in March 2020 – ARTECH 2021, October 13-15, 2021, Aveiro, Portugal, Portugal



Figure 15: The pandemic fuels capitalist driven inequalities and makes use of nature aggression.

the view that an arrogant incompetence, driven by the globally dominant financial capitalism, is in the core of the so called "battle against the coronavirus" (Fig. 15, left). Moreover, Vaneigem, who is a connoisseur in the history of diseases area, states that the coronavirus pandemic "covers over the emotional plague and hysterical fear that both hides the deficiencies of the treatment and perpetuates the evil by frightening the patient" [37]. On the other hand, he makes a clear connection between the virus violence causing death and the brutal pillaging of natural resources, as satirized in the cartoon given in Fig. 15 (right).

8 CONCLUSIONS

Current pandemic crisis is a major cause of concern for humankind. To cope with such a catastrophe, it is absolutely required to look at the roots of the phenomena associated with it, namely global capitalist power and religious passion. As it was extensively argued in this paper, those mystification sources affect in a way or another all forms of creativity, namely the ones dealt with in course of the claims disputing mainstream art and science.

As opposed the mainstream approach relying on some demiurge force, a fragmentary unspecialized stance is suggested here, driven by an enjoyable manner linked to humor and Bergson's laugh. Consequently, the creative motivation for well done work is obtained from this joyful attitude, which disputes the Latin etymology tripalium, which was a torture instrument.

In order to work in a truly creative way using scientific techniques, it is required to get rid of the 'objective functions' that drive such techniques in the path of least resistance, which is the one determined by capitalist ideology. In particular, chance directions are to be pursued, as it is the case of the example of the painting robots. This example illustrates in a practical way how Darwin's Dangerous Idea, as put forward by Daniel Dennet, may be the foundation of a delightful uselessness, instead of a eugenic distortion.

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