RESEARCH ARTICLE

Redeeming the Emancipatory Potential of Novelty Caught in Cunning Complexifications

Milan Jaros[*]

[1]Newcastle University, UK

Abstract

Competence in knowing and being is about making sense of change, of novelty's place in the social, its functionality as well as one's relation to it. The challenge is in acquiring, implementing, and resourcing methods of selecting and connecting things fit for the human condition of today. The main source of development has always been the urge to seek new forms of natural and spiritual order, and creative recasting of the inherited order into a new one. Until recently, such deeds were believed to be acts of Divine revelation. Advances of modernity turned the human action space into contingent networks of man-made quasi-objects grounded in disparate systems of thought and measurement that pattern the social. What will legitimate capacity for recognition and directional taxonomy of innovations? How will the resulting norms affect narratability of life? It is an outstanding intellectual and leadership challenge to develop practices leading to directional thought and fostering an elbow room for playful initiatives. Recent initiatives designed to bring knowing and being up to the demands of the digital age show that no amount of top down instruction, good will or revolutionary fervour, are a substitute for bottom up acquisition and ownership of knowledge and work in which the ultimate measure of value is the degree of personal independence and social emancipation. With it comes competent citizenship and social responsibility any socio-economic system with democratic ambitions cannot do without.

Keywords: Novelty and Creativity, Competence Development, Value and Citizenship, Social Ontology, Human Systems and Emergent Knowledge

1 | INTRODUCTION

1. An Introduction: How Did we Arrive Here and What Is to Be Done?

Already in early childhood we acquire a habitual way of selecting from our encounters with the world a subset of experiences that then forms the 'database' for any further processing. Un-

less these initial conditions are systematically upgraded so that we first become fully aware of their existence and then learn to defer our judgment until such time that we can identify and separate in functional terms causes from effects, directionality from chaos, we are destined to inform our decisions by surfaces of phenomena, by effects unhinged in our mind from what drives them. While this challenge has always been with us, its character has recently undergone a generic change.

For Plato and Aristotle Cosmos was an organic unity of things, humans, and Gods, of truth and virtue. Good and evil had 'shapes': God was the Great Geometer. The "crystalline spheres" or steps on the road to heaven in Danto's Comedia were visualised by no lesser a master than Sandro Botticelli! After Galileo, physics gradually abandoned the speculative style; change was a movement of matter and novel ordered structures its outstanding category. However, the notion of Cosmic Order with all its stimulating attributes remained a powerful point of departure for thinking about the human condition everywhere. In order to overcome their finitude, people dreamt of automata and potions of immortality. They went on to invent ingenious schemes about the world claiming universal validity, from Georg Friedrich Hegel and Karl Marx to Edmund Husserl and Sigmund Freud - not to speak of the latest cosmogony of Theory of Everything. They always selected from reality that which served their preconceived ideas, only to be reminded of limits of applicability of their scenarios by yet another such doctrine. When after thousand years of a regime that stood on reading religious texts and loyalty to the order constituted by such instruction its collapse in the course of the 20th cen-

Corresponding Author: *Milan Jaros*
Milan Jaros
Email: milan.jaros@newcastle.ac.uk

tury spilled out of elite enclosures, it shattered all grand speculative schemes and with them any illusion of a stable universe. The intellectual void so created contains piles of active debris of those great enterprises to haunt future generation as well as to inspire them.

In the maturing 20th century, attempts to bridge rapidly growing divergence between science and arts acquired a new sense of urgency. In his 1971 T.S. Eliot Memorial Lectures, George Steiner returned to Eliot's call for poetry that would incorporate the openings offered by modern physics. Indeed, almost any manifestation of novel forms of order recently discovered by sciences, the black holes and negative entropy, genes and clones, man-made structures of billions of atoms ordered on a pinhead running anything from phones to operating theatres, provided visual and narrative material for arts and literature to play with. From humanities quarks, colour, and the eightfold way helped physics to organise fundamental units of matter! In Daniel Tiffany's lovely phrase, today as ever poetry and theoretical physics share, indeed depend for their success on freedoms of the space of toy medium in which to explore "credible impossibilities" [1] . The sparkling innovations of, say, quantum theory of matter or Mozart's music rest in rare, deep grasp of the inherited order, and its recasting without losing the treasured lingo of narratability and appreciation of enigmatic novelty in its blend of order with disorder, rationality with knowledge of what Bertrand Russell called moments of "holy madness".

Actuality of any worthy legacy can only remain effective if its place in the socio-cultural milieu is within the actor's reach and fit to inform directional thought! The advent of quantitative, empirical data generation, storage, and retrieval on scales vastly exceeding those of the human body, and social systems created in its wake or instrumental in bringing it about, overwhelmed communication and work practices in general [e.g. [2] , [3]]. Most new ordered structures are hidden under layers of mediators each with its input-output variables. Their performances are framed by legalist-managerial norms with perpetually updated order parameters designed

to extract maximum 'rent' [[4] , [5]]. The result is globalised fragmentation of the division of labour, separation of productive functions from their sources as if driven by Big Brother in the shape of runaway complexification of matter [[6] , [7]]. As a result of these changes, the initial conditions which frame the selection process of what and how to take in are dominated by the overkill of chaotic interactions beamed into the mind from the street and the media, and coloured by resonances of past interventions. It is "total present" on the run. The task of separating effects from their causes is that much more challenging. Particularly because, under the influence of the very same stressful conditioning greatly amplified by social policies of the last thirty years or so, persons in a position of responsibility whether in a school, college or business are anxious to bring those under their care to performance assessments ready to say no more and no less than what the establishment's current image of reality has been reduced to. To meet the rapidly changing indicators parties on both sides of the table are destined to make decisions based on appearances.

This then is a call, first of all, not for any particular knowledge, but for a novel attitude to formulation and execution of whatever the task in question, and capacity for discrimination and personal competence it fosters. Its success is a measure of the degree to which the link between cause and effect is captured in the process of decision making. In conditions of high complexity the optimum answer may require several iterations and reduction to a subsystem amenable to predictive solutions. Instead of rushing to pick from among the 101 'core problems' for which one gets a good degree in an examination room, it is about deciding what really is the relevant process and its key parameters, and how this choice matches the data as well as our position in the task space. If we fail to live up to this requirement, we are bound soon to end up disoriented and ultimately dis-enfranchised. Recent initiatives designed to bring knowing and being into the digital age show that no amount of top down instruction, good will or revolutionary fervour, are a substitute for bottom up, personal acquisition and ownership of knowledge and work. Taking full advantage of forthcoming educational software creates room for a shift to project-based tutor-learner interactions in which the ultimate measure of value is the degree of independence and social emancipation they can offer [8] .

There are many who, in their own peculiar way, share this measure of human condition today, in private and in public. However, recently most have confined themselves to intensifying critique to register their rejection of the neoliberal division of labour and wealth. Also, this critique has been - be with varied degrees of scepticism - couched in the language of qualitative constructs echoing the tradition of speculative models of life by now mostly rendered impotent by the character of causal forces underlying functioning of the post-mechanical age. The result is an overkill of critique often bordering on trumpery that exacerbates the sense of being lost in a system driven away from equilibrium by some mysterious external power. The challenge taken up here is to build on pertinent critique with a view to developing independent means for redeeming the lasting content of our cultural inheritance and presence. It will be instrumental in constituting an independent reference space as a necessary condition for effective taxonomy of innovation free of doctrinaire impositions and interference, in public space owned by its citizens where the ultimate measure of work and value is human independence and emancipation [9] .

The concept of order is invoked here as a force in the service to liberation of humans by independent reason, to protecting people from caprices of nature and arbitrary will - not as a 'levelling weapon' favoured by fanatics and dictators. This is well in keeping with the legacy of the Enlightenment. However, there is a fundamental difference! Now it is possible to capture and organise the order of things in sequences of genealogical lines legitimated by quantitative, empirical methods with transparent limits of applicability [[10] , [11]]. References to certain techniques such as the complex system analysis and dynamic ontology are here not to confuse norms for change with those of mechanics but to free them from being

reduced to it; they make it possible credibly to identify useful subsystems that under clearly defined conditions offer solutions and predictability ('planning'!). This is what led to the achievement of e.g. Newton and Marx, in their case of course as a result of brilliant intuition! Such methods create a neutral reference space necessary for seeking credible representations of reality and of novelty in particular, without confusing risk with uncertainty and error or complicatedness with complexity [e.g. [12] , [13]]. It has recently been argued by many that competence in directional problem formulation and development has long been overdue [e.g. [14] and refs. therein].

2 | 2. THE 21ST CENTURY SOCIETY AND ITS CRITICS

2.1 The Human Condition in the 21st Century

For centuries, the main source of change, of inspiration and ambition has been the drive to understand disparate forms of order and ordered structures underlying access to mastery of the material world, from stone to steal and atomic nuclei, and to conceptualise and symbolise the human condition. Caught between the I and the world out there, we desire permanence and stability. Yet we cannot maintain mental balances without perpetual renewal of human self-understanding, of 'gradient of thought'. Until well into the 20th century, and for some even today, thoughts about the human condition have been inspired by the Given, by varieties of beliefs in Divine Revelation and Grace. The speculative schemes it led to each set out premises designed to select from human experience those events that led to and supported the preconceived ideas of those who constructed them. This provided a collection of powerful all-embracing concepts as well as archetypal images such as those of the Bible or classical Greece that have been used for centuries as a vehicle for symbolisation of social development bridging the gap between order generation and its actualisation, between the order of things and its perception in daily life. To serve the developmental patterns, the images of reality had to be perfected so that

they would match as much as possible representations of reality with recognition of their content in human experience of life. This has been the key driving force in pursuit of liberation of humans by reason from caprices of nature and arbitrary will. It led not only to astonishing improvements in the material condition of humans but also to creative expressions of humanity across the full range of human endeavours, in spite of every conceivable misuse by ignorance and arrogance of self-proclaimed saviours of humanity as well as robber barons and dictators.

In the first decades of the 20th century a number of thinkers recognised that claims about applicability of inherited speculative postulates were no longer credible. Musing in Vienna sometime just before the Great War, Robert Musil's Ulrich, his man Without Qualities, announces the coming of a new age whose functional description still alludes him: "… Had life… reached a standstill? Far from it! Had no absurdities been committed in the past? Masses of them! ... The fact is simply that there is as much lack of everything as of nothing…"[[15] . This picture of the fate of modernity resonates in the current intellectual vogue! Musil, though like his hero himself much of a *doctor universalis* of his age, remained baffled. The first signs of emerging quantitative methods of empirical inquiry never reached his agenda nor did they touch his illustrious contemporaries of the calibre of Ernst Mach, Walter Benjamin, Theodore Adorno or Edmund Husserl. Instead they kept accumulating ingenuous speculative conceptualisations swamped by what they saw as catastrophic instabilities destroying all values of distant and recent past [16] .

Already in the first decades of the 19th century, in his Berlin lectures on aesthetics, Georg Friedrich Hegel argued that artefacts are no longer directly apprehensible to us [e.g. ref. [17]]. According to him, we make judgments in the light of current development and therefore the method of inquiry requires 'objective' demarcation criteria. The most apparent way to demonstrate change as novelty is to 'measure'. The artefact then has to be identified and viewed as an object so that the claim to directional progress such as that

posited by Hegel was measurable, i.e. that the procession of abstractions underlying Hegel's notion of movement of history towards human self-understanding was demonstrable. In the end not only an ambitious physicist claiming immortality for his 'rearrangements of matter' but also the avant-garde artist somewhere in the Latin Quarter of Paris wanted to prove that his or her marks on the canvas were the first of its kind [18] . Alas! Only those factual 'details' that supported the chosen (e.g. Hegelian) scheme of things counted! The same goes for the selection process hidden under the verbatim chosen to suit most of the subsequent interventions that enjoyed much attention in their day.

It seems well in keeping with the tradition of speculative, qualitative rhetoric and logos impressed upon the liberal college, and on much of the public space to the present day, that one the most influential of recent cultural outlooks operates under the label "conceptual art". In the words of no lesser authority than Arthur Danto, the advent of conceptual art was "the philosophical coming of age of art…"; "visuality drops away…there does not have to be an object to look at, and if there are to be objects in a gallery, they can look like anything at all" [19] .What is this philosophy that does not, cannot look at the world of things? What is wisdom and novelty to be distinguished from trivia and plagiarism if it is not about careful attention to the world of things? Where do ideas come from, and where are they to be tested? How can this scheme lead to directional thought without which humans are becoming ephemeras! Of course, it was understood from the beginning that this was chiefly a way of freeing the art space from inconvenient burdens of vital layers of historicism and its numerous influential siblings unchallengeable without scholarly mastery of history. And from the 'terror' of normative craft skills always taken as condition for legitimating novelty, an unavoidable part of the package inherited from the "age of ideologies" right up to late modernity.

By successfully accomplishing this turnover, and in spite of their rhetoric, thinkers like Danto de facto exposed, indeed condemned artefacts to any methods of selection no matter how ridiculous.

The alternative they put before us is a lone act-object – a thing without neighbours or shared thing-ness – invariably destined after its best twenty minutes for the dustbin of fallen matter or worse, to live as a successful parody of what it was meant to signify. There are valued examples of conceptual art like the Turner Prize winning soiled bed – presumably in the class of "abject art" in the taxonomy of The Bad New Days [20] ! Alas! What is abject for some may for others be, say, a long-awaited spark lifting the veil preventing the oppressed from rising against their oppressors! Is Dr Marx smiling into his beard in the Highgate cemetery at the sight of 'class struggle' by placing a soiled bed in the fanciest of bourgeois show rooms?

1. Critiques of the State of the Art … and Matter

In the last decades of the 20th century, and particularly more recently, the process of fragmentation and destabilisation of social structures reached its climax in failure of the neo-liberal regime of division of labour and wealth to cope with runaway complexification. The critical discourse has for a number of decades endeavoured in numerous ways to expose this development as highly divisive, indeed forbidding. In her very recent and highly representative study [21] Hito Steyer offers a devastating critique of the culture of neo-liberal era. Although she refers mainly to the arts and architecture, her arguments apply almost without exception to all forms of human expression and their actualisation in the social, including applied science and technology! In her view, we have moved from what philosophers of the old called creative destruction to creative disruption. From art to technology and finance, the name of the day is a novel brand of singularity and instability. She invokes stasis, a well-chosen Greek word that means both war and immutability. Then conflict is not a tool for resolving disputed points but for making profit from them. Playing has been gradually replaced with gaming. In place of doodling under a green lamp shade there is the joystick and the wired screen hooked

on thousand algorithms. This brings advantages in data generation, storage, and retrieval. However, it carries a deadly danger of the invisible rule of top down algorithm becoming the norm. Humans led to believe they rule the world from their screen are better thought of as mastered by Big Brother, and one that runs along without needing a Central Committee or Gestapo to do so! Novelty becomes synonymous with the novelty of "total presence" rapidly swallowed in the black hole of consumption. Steyer argues that contemporary art – what is recognised by those concerned with it as art – is a proxy, an escape. "It pretends that everything is still ok". It has to be since it is largely paid for by the likes of Google and Amazon whose success in the business of cultural capitalism married to saddled R&D community as well as to the art & architecture industrial complex [22] rests in making up what the future 'needs' of the customer in waiting should be! The openness to non-incremental directional change that comes with the elbow room for free play is gone or reduced to a pre-packaged path.

Steyer readily admits that her own interventions, as it turns out much appreciated by the Art Establishment, are, like those of many others, successful contributions to this instability! Her proclaimed intention is to intensify this sense of crisis, hoping that it will expose more fully our problems. This is by now an established defensive position right across the critical genre and underlies practices of communication media at large. Indeed, to think in public about how to release humanity from this stasis is risking being called naïve or worse. However, elsewhere Steyer makes it clear that she longs for quasi-equilibrium, consensual development acted out in an open public space owned by its citizens!

Resorting to the singular and spectacular has always been the ultimate way of expressing desire for a radical reform when all other means appeared to have failed - or simply to cry No! However, in the last hundred years or so it has gradually acquired novel significance. In the absence of a credible alternative, even some of the most creative thinkers of the 20th century sought in it refuge from the alarming growth of what

they saw as the 'terror of reason' and mechanical levelling. And so when Walter Benjamin turns in his *oeuvre* to postulating a regime of catastrophic instabilities, he who elsewhere wants to pass for a materialist and dialectician reaches for the Messianic [23] ! This way of thinking is very much alive today, be it in a very different action space, and one in which the notion of what is religious – just like what is scientific – entered the regime in which its narratable content is perpetually hybridised and recast. For example, in his review of Roberto Calasso's Unnameable Present, John Banville observes that the author wants us to return to the "old gods". Calasso thinks that we banished them and disregarded those who did not at our peril [24] . Did he worry about our capacity to transcend commoditisation of work and life, or to foster directional thought? How would someone who does not care much for facts, and revels, as Banwille repeatedly points out, in cliché complaints spiced with furious name dropping, find out?

Banville summed up: "What an arrogant trumpery of these Late Days of Mankind"! Trumpery it may be but it would be naïve to leave it at that. For Calasso is known to be a highly educated, writerly and scholarly individual in an influential social position. There is lurking from under the name dropping a genuine lament about the enormity of intellectual vacuum that is rapidly engulfing us. As the utopia of Kantian subjects and objects structured by independent reason became increasingly unreachable, there remained only a fleeting presence dominated by puppeteers of hot dollars. Object-events as well as attempts to represent them, detached from their functional origin, acquired a life of their own; in between Calasso's sentences speaks the growing gap between cause and effect and the loss of capacity for discrimination. Yet, already in the 1950s, in the first hundred pages of her Mandarins, Simone de Beauvoir captured the existence and enormity of just such a gap as well as the shift in conceptual outlook it would enforce [25] !

The call for a generic restructuring of the thought space fit for the 21st century is being made even

by those who have long been front line actors relentlessly critical of but in fact deeply faithful to methods of the 'age of ideologies'. For example, one of Peter Osborne's recent books ends with an admission that it no longer matters whether one supports "conceptual", "post-conceptual" or any other 'critical position'; it would not show "(how) to cross the gasp between 'the temporal topology and the algebra of calculation' that give retroactive consistency …intelligibility… to the act…" And he goes on "One might speculate that the place of stasis within the culture of images is …not… located at the level of the image as a whole, in its wholeness as a fragment of reality, but rather at the level of the pixel as the basic unit of the image" [26] . Finally, in the words of no lesser a figure than the Master of the October era, this is because "today the social bond is as pressured as the public sphere is atrophied, and criteria more robust then discursivity and sociability are required in response… The concept on which it depends, citizenship, …is… radical once again… What counts as citizenship …today… and what does citizenship signify…? [20] .

3 | 3. THE CUNNING OF COMPLEXIFIED MATTER

3.1 From Static to Dynamic Ontology

The human condition peculiar to the 21st century has been a source of many studies. Their common point of departure is in general the weakening of Cartesian notion of autonomy of subject and object, and loss of nature as a neutral referent. Today, there are many competing levels and scales of measurement and embodiment, e.g. mechanical, molecular, genomic, system-algorithmic. It is as if the stability and uniqueness of the self and place have been dissolved into objectified flow of matter propelled by runaway complexity promoting itself. This brought about a shift from the ancient regime of 'static' ontology in which the human body and direct contact causality were the sole measure of big and small, real and unreal,

fast and slow etc. For input-output performance evaluations on which the success of material exchanges of all kind depends, what something 'is' is best accounted for by what it 'does', how it is actively "registered" at the site of intervention. Since under the reign of current technicity of the human environment being of objects is, at least for the purposes of functional analysis or meaning making, inseparable from the dynamics of production in the broadest sense of the term, the specificity of what 'is' rests in identification of the process in question. Then what 'is' is better thought as being constituted by the interaction and the parameters accounting for it [27] . In fact, the pragmatic meaning of this verbatim is very simple and natural to any contemporary modeller. It selects the function in question and leaves out the other properties of the system; what, for instance, a computer set up to do accounts 'is' reduces to describing that accounting.

Aristotle and many of those who for centuries followed his example thought of what 'is' as an organism. His Cosmos was a stable organic unity of humans, things, and gods. He required that in order to establish what is four causes, material, efficient, formal and final be specified, i.e. the material of the thing in question, the way it was build, its plan or ideal form, and its 'purpose'. Galileo abandoned this tradition. As Thomas Kuhn argued persuasively, only in rare moments of a "paradigm shift", when new structural order is about to be recognised and acknowledged, are all aspects of the process to be fully addressed, i.e. efforts resembling those implied by Aristotle's causes [28] . In daily working practices of modern science, it has been mainly the formal cause that mattered for the rest was assumed to have been taken care of by the consensual background. However, in the age of complex networked systems operating mostly away from equilibrium, it is the functional parameters specific to the dynamics of the input-output process at the time and site of action that enter quantitative modelling and its assessment! The challenge is to maintain a self-consistent set of variables and their boundaries legitimating the modelling procedures.

3.2 Whither the Condition of Pata-Physics?

The departure of Cartesian ontology was welcome by thinkers of high modernism. Charles Le Corbusier and Mies van der Rohe, Pablo Picasso and James Joyce, Walter Benjamin and Gill Deleuze, Niels Bohr and Albert Einstein, to name just a few well known personalities, thought in their own peculiar way that this withdrawal of perspective space-ness of objects and subjects facing each other as if they were in an exhibition hall will be liberating, that it is a way of moving beyond the by then apparent limits of the 19th century thought. It was a leap into new limitlessness which was thought to be a key to redeeming 'originary richness' of being. Instead, it soon transpired that it opened a new and more threatening void. It brought back memory of Blaise Pascal's horror of falling into an abyss (on his left!) and other phobias made famous by analysts from Sigmund Freud to Jacques Lacan [e.g. [29]]; now it would presumably be a fall into the black hole of pseudo-communicability!

Ostensibly the computer screen may look like Leon Battista Alberti's window. Alas! What has been added are manifestations of a multitude of rising and decaying models of the world or rather what is left of them after projecting them on the process in question. All this reflects back to the mind and keeps re-defining and de-stabilising any practice of 'viewing'. When taken out of the closure of lab and cloister and attached to a local function, the artefact and its measure of new order no longer possess the rigour that could protect it, at least theoretically, from misuse. It is open to perpetual re-interpretation, and in the absence of rational consensual taxonomy its narratability is unhinged, let loose in space and time, checked only by the level of rewards for services to fleeting fashions of the regime of total presence. Gone are fierce but respectful disputes about ways of remembering the days of Sophocles and Shakespeare or Socrates and Newton, legacy of the past as a means to making recognisable our future rather than to please the market with the latest 'adaptation'! Indeed, anything from heavenly bodies to automatons, Anton Chekhov's Seagull, and anybody's communism, the Big Bang etc. is let loose in public spaces - to borrow the unforgettable phrase of Alfred Jarry's Ubu, as "pata-physics" [30] . One does not have to be a practicing Dadaist to notice that this making up of 'new reality' by ruthlessly recasting the cultural inheritance for cheap profit almost entirely replaces original works whose role has always been to capture the social face of causal forces shaping our world. Should there be any doubt about the vigour of pata-physics today, in his splendid novel Robert Menasse [31] offers an inexhaustible account of 'perfect mis-functioning' in the Capital of Europe peculiar to the exhausted regime of runaway complexification. Of particular interest is the pathology of institutionalised practices, anything from techno-scientific R&D to arts and humanities, communication and marketing. By 2000 - if not earlier - in defence of their niche under challenging conditions, interest groups at all levels of sophistication and size gradually identified themselves with fenced off 'colleges' formed around a few ideas no matter how petty provided they can be employed to protect the tribe whatever the cost. This turns out to be one of the most potent threats to sane social development in the broadest sense of the word!

3.3 They do it with Dolls…

Beware of Franz Kafka's Categorical Imperative: "Act so that the Angel has something to do". This line from his diaries neatly sums up the enigma of creativity; value is always a measure of the gradient of life at the site of action, though it is always stability and universal acceptance that the self-preservation instinct of human psyche yearns for. Innovations in modern sciences and arts alike are ways in which the idea of order and its directional development come to consciousness. Then humans, children of the harmony of the spheres and all that it brought to us, rise above Darwinian survival of the fittest to glimpse so far unheard of arrangements of matter. To be able to reassure themselves of their achievements, they need access to a neutral background retrievably containing all that makes the past give meaning to recognition of what is to come. Apprehension

of different forms of independent order facilitates directional actualisation of ideas. In particular, the act of bringing into the world a novel arrangement of matter accomplishes sensuous presentation of ideas. Truth would not be truth if it did not show itself and appear. Like science, though at a different epistemic level, arts purify the form to express the content, i.e. the concept of order adequate to itself in being. It is unification – be it framed by the finitude of territory of applicability - of independent concepts with the precision of real particularity.

 Ideas of order generation and recognition evolve and provide innovation with an ever - changing subject. Humans draw out of themselves and puts before themselves what they are and whatever else is. They do that by altering 'things', by material exchanges that constitute the impulse and the means to recognise and re-produce themselves. For this to happen, humans must be free to 'play'! From Johannes Kepler to Janos von Neumann, Walter Benjamin, and Rainer Maria von Rilke distinguished physicists, mathematicians, philosophers, and poets have written about dolls and toyness, doodling and tale telling that took them to their discoveries. More than a century before Marcel Duchamp, Heinrich von Kleist in his essay on dolls went on to put forward the notion of a 'formula-like' grounding of the creative act providing a criterion for remembering and retrieval. A child shown how to play with a doll, soon after mastering the unavoidable instruction by an adult, begins spontaneously to create its own script, and then rapidly turns it into something of a ritual or 'formula'; for only as that it can be remembered and built upon to make new tricks, scripts, and performances. One late exemplary product of toy medium displaying the neo-baroque face of the ontic and political role of *materia poetica* was born in The Spider, in downtown Prague of the 1960ties, in the heady days of rising resentment to the exhausted regime there [32] !

 Daniel Tiffany quotes Michel Serres who most fittingly expressed the role of toyness as a key tool in maintaining humanness, distinguishing humans from other creatures by the unique gift of spontaneously renewing itself by discovering and acting upon new forms of independent order and its manifestations. It is time, he suggested, we learned to see pictures, things, and signs in general as dolls! For whether we think of a painting, a document of social policy or an equation of physics, what it 'is', and what the gradient of development it belongs to is, depends on how we 'touch' and 'play' with it, how it is registered at the site of action - as we do with a doll! To record and make retrievable, 'measure' what we did, we must specify the relevant 'rearrangement of matter' in terms of parameters accounting transparently and reproducibly for the change, for the action-event in question.

4 | 4. NOVELTY AND VALUE

 When Professor Steyer and her fellow critics rejected the current 'cultural paradigm', they made a number of selections. By saying that something is bad or good, they indicated that an assessment has been made. In their qualitative appraisal, the parameters they might have thought of to make the selection, to 'measure', remain lost in the verbatim of the argument ranging over a wide range of case by case observations and conceptualisations. It has been done like that for centuries. And, so long as the number of those with privileged access to authoritative channels remained small, their battles resulted in a consensual draw - be it often only short lived and repeatedly misused in pockets of peripheral activities. It was when the number and the social condition of those who felt entitled to and ultimately succeeded in gaining access to decision making and influence exceeded a certain critical value that whatever was left of the consensual quasi-equilibrium collapsed. Each player endeavours, often in following famous models muddled beyond recognition, to introduce yet another collection of derivative abstractions or simply any deeds with which to claim immortality. Without at least a formally independent authority, it really is anything goes!

In today's science and engineering, but also in architecture and manufacturing, empirical data and computer modelling are standard. Although many in social sciences and humanities still insist on retaining at least appearances of universalist conceptualisations inherited from pre-digital traditions, paradoxically, read in terms of the above paragraphs, some of the most elaborate linguistic gymnastics may in fact be seen as mirroring remarkably well the thrust of above-mentioned quantitative modelling. This is without making any reference to, indeed distancing themselves from the very vocabulary of empirical modelling such as databases, variables, limits of applicability etc. - for example, in research projects associated with the so called ontological realism, an outlook shared in the broadest sense of the word by oeuvres of philosophers like Gill Deleuze and Manuel DeLanda, but also sociologists Niclas Luhmann and Bruno Latour, and aestheticians Graham Harman and Levi Bryant [33] . Indeed, in "object-oriented ontology", there are neither good nor bad acts of creativity. Just like in the language of dynamic ontology used for modelling complex processes, qualities are not something the object 'possesses'. In any functional analysis, 'it' is recognised not as a thing out there but rather as acts, verbs, vectors of something an object does or is done to.

5 | 5. NOVELTY AND MEASURE

5.1 Analogy and Comparison

By exhibiting a urinal, far from 'programmatic dematerialisation' emphasizing linguistic constructs of conceptual contents in place of objectness that still plagues many a judgement, Marcel Duchamp's 'debunking' of conventions as conventions was carried out by reducing the debate to the distinction between pure and practical judgement. We cannot know that which is the domain of Kant's Critique of Judgement. However, since this unknowability is known, it can inform our judgment. When what is in question is a mere potentiality, any algorithm attached to it is destined to fail if an attempt is made to treat it as if it were a law-like relation. Duchamp, whose interest in mathematics went well beyond the curiosity of an artist or chess player, refers to the danger in falling for the apparent formula-like appearance of our experiences in his Warning [34] . Indeed, at least since Pythagoras, aesthetic theories have always contained an element of mathematical 'argument', a 'formula', e.g. the Golden Section. Then it was something given, a divine revelation or gift to be acquired by recollection. Today any 'formula-like approach' can only be legitimated by quantitative modelling, by what are by now well established principles of divisibility and composability of things according to laws which govern organisation of any material object or process.

5.2 Archival and Performative Criteria

That which has been, and the experience of it, its impact on the present, is consumed in works of science, art, and communication, and infused into social norms. Traditional historiography relied on storytelling that presupposes quasi-equilibrium development. A common sense notion of norm always made one think of means of making sense of 'measure and value' of patterns we encounter directly, e.g. with a ruler, meters and inches. Today multiple exposures to new technologies of production and communication makes us accept without much ado mediated means of assessment ('measurement') inseparable from digital generation, storage and control. We have telescopes and microscopes, magnetic resonance imaging, the supercollider, 'digital' architecture, and a quantitative empirical study of income distribution worthy of the Nobel Prize [11] ! Even faces observed in dark corners of a city can be identified and recorded, by devices known under the umbrella term "pattern recognition"! We have digital, empirical studies of consumerism and advertising, design and marketing, immunology and treatment of diseases, archaeology and history, fine art and literature, and many more. The results of many such projects

are in the public domain, be it mostly veiled by incomprehensible jargon and lack of systematic organisation. But they can be examined by any able citizen, together with their limits of applicability and error bars. It would appear that at least in principle the society already possesses the means to live up to the call for programmatic recasting of our past and present into empirical databases accessible in terms of transparent, independent parameters and their limits of applicability. Although such a record is necessary, it is certainly not a sufficient condition for bringing out and exploiting the social content of the recent generic shift in the human condition and its methodological implication! Even during unprecedented crises such as the financial crash of 2008 or the battle for British exit from the European Union, the public debate paid little informed attention to the wealth of empirical data available on the net or put before them, not to speak of any warnings about its legitimacy. There is clearly more to actualising the social content of a 'measure' of change and developmental patterns than what case by case specialist products handled at very different levels of methodology can offer. In particular, to identify genuine novelty as opposed to permutations of the old, be it one enjoying the twenty minute fame here and there, parametrisation used for generation of specialist databases and for processing procedures must be projected on the variables and normative conditions characteristic of the spatio-temporal domain where recognition and actualisation of such a result is intended. The key issue here is that such a transmission process requires a way of thinking quite unlike that bequeathed to us by centuries of qualitative opinion making that remains a powerful influence in education and public discourse at large thanks to its perpetual renewal in theatre, arts, and literature, not to mention popularisation of theoretical physics and cosmology [35] ! However, once we see the task as quantitative modelling of a process, differences and the degree to which they constitute a novel order can, in most cases, be established by direct comparison, by looking at instances lying along the relevant genealogical line of development. This is how the state of the art

modelling proceeds [[10][11][12]]. Nevertheless, reporting such methodological procedures and their novelty is often overshadowed by presenting the result in terms of some popular 'performance indicators'; they show chosen outcomes but hide the cause. In processes of high complexity, i.e. when the number of parameters needed to describe the function becomes comparable to the number elements or data points to be explained [[13] , [14]], results must be facilitated by re-enacting the event and iterating parameters to optimise the match between the model and data. This is what happens, for example, in weather forecasting or in modelling movements of the stock market. Again, it is worth stressing that the complex system analysis is not, as some have complained, a way to debunk the idea of rational organisation of social change ("planning") but the only credible means to reducing the task to a subsystem amenable to predictive solutions some of which can make planning feasible.

The complex system and dynamic ontology approaches may also be helpful when trying to establish novelty of a singular act or in a sample of seemingly very similar objects such as sculptures of human bodies. There one has to examine the enabling technical procedures revealing some 'intrinsic' structural novelty as opposed to demonstrable novelty expressible in terms of usual order parameters. Needless to add, it is also a way to take us closer to Prof Osborne's vision about bringing the debate down to "pixels" [26] !

Although methods of the age of speculations and claims of universal value cannot be redeemed, their creative content can and must. A purposeful choice of parameters and empirical domains will recast our cultural heritage and turn it into a structured source of transparent data open to perpetual, independent process of debating and upgrading. The success of this outlook rests as always on innovative experimentation with concepts though here it is about the choice and management of empirical domains, variables, and their limits. The ultimate measure of value is the degree of self-consistency between the model and data concerning the empirical domain of interest. Since the variables and their limits of appli-

cability in question are in full public view and amenable to critical analysis, they will also serve as an independent reference point or 'referee' in place of a dubious 'consensus' practices of the pre-digital age.

6 | 6. CONCLUSIONS

If change is movements of matter, novelty is about those re-arrangements of matter that can be recognised and expressed in terms of independent parameters as patterns of ordered structures demonstrably superseding any previous recorded order, and so as to ensure their separation from imitative concoctions and crude plagiarism. From fine arts to rocket science, this procedure can and has in various ways already been maintained though so far only case by case. However, at the level of social discourse, technicalities of new order generation constitutive of the causal forces in question are often hidden from view and, apart from notable exceptions, remain jealously guarded by the specialties. They only reach the social several times removed from their causal drivers, in the shape of their effects, in most cases contextualised to account for the apparent way the relevant function of the object-event in question is expressed by narratable performance indicators.

Another class of novelty concerns object-events with no recordable novelty of structural order, or those peculiar to conditions of high complexity, i.e. when the number of variables required to describe the event becomes comparable to the number of items to be accounted for. Although in the latter case novelty of certain parts such as algorithms or instruments, and the contribution to their discipline, can be acknowledged outside the actual dynamics of the event under examination, their link to the outcome and its novelty remains undecided. The description of such an event can only be obtained by iteratively re-enacting it to find the optimum model for likely outcomes. Then the best that can be said about the event's novelty is in reference to such a model - provided that the order grounding its functioning

can be positioned in one of the relevant empirical genealogies facilitating meaningful comparisons. This approach might also be invoked, at least in principle, in the case of 'lone events', 'singular interventions' such as placing of a soiled bed in an art gallery, jumping across the Grand Canyon or covering the Reichstag with a canvas, all of which had enjoyed much credit as novelty in their time.

Recent history shows that no amount of good will or revolutionary fervour can replace personal ownership of work and knowledge at the level matching the personal potential of the individual concerned and the demands and opportunities associated with digital technologies and their applications. With it comes ownership by the individual of citizenship and social responsibility; whatever the socio-economic system of the day, if it has any ambition of retaining democratic principles, it will ultimately depend for its success on fostering such values. It was the disenfranchising of individuals at all levels that was one of the key causes of the depth of the collapse of the post-war socialist experiments. The wholesome disenfranchising that came about as one of the most visible social outcomes of the neoliberal division of labour and wealth plays a major role in destabilising Western democracies of today. Actualisation of this agenda will be greatly promoted by giving individuals a chance to learn grounding his or her judgement, and the uptake of top-down political and specialist instruction, in a bottom up, object-based and project-mediated programme of experiencing the making and choosing and symbolising. A workable curriculum invoking an interactive tutor-learner structure of delivery shaped by advances of the digital age has been developed and successfully implemented, with encouraging results across a wide range of ability, from school to post-graduate levels [[36][37]]. It is an outstanding intellectual, and in particular leadership and educational challenge to install an attitude to life and work practices fit for functioning in the regime of knowledge systems conditioning the division of labour and wealth, and capable of recasting our heritage and presence in terms of independent taxonomy of order generation and recognition [38] . The open, transparent action space

so created opens an elbow room for free, playful initiatives that have always stood at the birth of major innovations whether in poetry, theoretical physics, or gardening, and whose ultimate measure in any socio-economic system must be the degree of personal independence and social emancipation it can offer to all. For "…only in an emancipated society, whose member's autonomy and responsibility had been realised, would communication have developed into a non-authoritarian and universally practiced dialogue from which … ego identity and … true consensus are always implicitly derived" [39] .

REFERENCES

[1] Medium TDT. Berkeley, Univ. of Calif. Press;2000.

[2] Mirowski P. Never Let a Serious Crisis Go to Waste. London: Verso; 2013.

[3] Fuchs C. Digital Labour and Karl Marx. London: Routledge; 2014.

[4] Westra R. The Evil Axis of Finance. Atlanta, Clarity Press; 2012.

[5] Pistor K. The Code of Capital: How the Law Creates Wealth and Inequality. Princeton, Princeton University Press; 2020.

[6] Westra R. Exit from Globalisation. London, Routledge; 2015.

[7] Stiglitz J.E. Globalisation and its Discontents Revisited. London, Verso; 2018.

[8] Jaros M. Pedagogy for knowledge recognition and acquisition: knowing and being at the close of the mechanical age. The Curriculum Journal 20, pp 191-208; 2009.

[9] Jaros M. Reconciling Human Systems with Emergent Knowledge: Work and Value Today. Journal of Advances in Social Science and Humanities 4(12), 453-7; 2018.

[10] Morris I. Why the West Rules – For Now. New York: Farrah, Strauss & Giroux; 2010. Also Morris I. The Measure of Civilisation. Princeton, Princeton University Press; 2013.

[11] Piketty T. Capital in the Twenty-First Century. Transl. Goldhammer R. Cambridge Mass, Harvard University Press; 2014.

[12] Sornette D. Why Stock Markets Crash. Princeton, Princeton University Press; 2003.

[13] Nowotny H. The Cunning of Uncertainty. Cambridge: Polity; 2016.

[14] Blömeke S., Zlatkin-Troitchanskaia O., & Fege J., Eds. Modeling and Measuring Competences in Higher Education. Rotterdam, Sensepublishers; 2013.

[15] Musil R. The Man without Qualities. London, Penguin; 1955.

[16] Sigmund K. Exact Thinking in Demented Times. New York, Basic Books; 2017.

[17] Karelis C. Hegel's Introduction to Aesthetics. Transl. Knox T.M. Oxford: Oxford Univ. Press; 1979.

[18] Gombrich E. H. In Search of Cultural History. Oxford: Oxford Univ. Pres; 1969.

[19] Danto A.C. After the End of Art. Princeton, Princeton University Press; 1997.

[20] Foster H. Bad New Days: Art, Criticism, Emergency. London: Verso; 2015.

[21] Steyer H. Duty Free Art. London, Verso; 2017.

[22] Foster H. The Art-Architecture Complex. London, Verso; 2011.

[23] Benjamin W. The Arcades Project. Cambridge Mass.: Harvard Univ. Press; 1999. Transl. Eiland H. & McLoughlin

[24] Banville J. Of Terrorists, Tourists, and Robert Frost New Your Review of Books LXVI pp 61-62.Transl Dixon R. 2019;.Re: Calasso R. The Unnamable Present. New York, Farrar, Strauss, and Giroux; 2020. Transl. Dixon R.

[25] De SB. The Mandarins. London, Flamingo:Transl. Friedman L.M; 1984.

[26] Osborne P. The Postconceptual Condition.London, Verso; 2018.

[27]   Smith B.C. On the Origin of Objects. Cambridge, MIT Press; 1996.

[28]   Kuhn T. The Essential Tension. Chicago, Chicago University Press; 1977.

[29]   Vidler A. Warped Spaces. Cambridge Mass., MIT Press; 2001.

[30]   Jarry A. Ubu. Transl. McLeish K. London: Nick Hern Books; 1997.

[31]   Menasse R. The Kapital. New York, Liveright Publishing Corporation; 2019. Transl. Bulloch J.

[32]   Jaros M. Materia Poetica: Models of Corporeality and Onto-Poetic Pata-Physics of the Post-Mechanical Age, Technoetic Arts 3 (1), 3-12; 2005. Also Jaros M. Materia Poetica: Models of Corporeality and Pata-Physics in Literary Narratives. Presented at the Conference on Science and Literature, Leeds University, UK; 2004. https://newcastle.academia.edu/MilanJaros.

[33]   Bryant L. R. The Democracy of Objects. Ann Arbor, Open Humanities Press; 2011.

[34]   De Duve T.   Kant after Duchamp. Cambridge, MIT Press; 1998.

[35]   Jaros M. Transmissivity of Measure and value in Human Systems. Journal of Advances in Social Science and Humanities 5(8), 939-948; 2019.

[36]   Jaros M. Leadership and Methodology Challenges in Higher Education: Developing Competence in the Digital Age. Global Education Review 2, 64-89; 2014.

[37]   Jaros M. Leadership and Competence Development in Higher Education: Reconstituting the Human-Machine Interfaces in the Space of Digital Systems. American Journal of Educational Research, 2 (10), 898-905; 2014.

[38]   Jaros M. The Episteme of Meta-Modernity: Order, Value, and Citizenship in the Space of Digital Finitudes. The International Journal of Social Science and Humanities Inventions 6(4), 5391-5399; 2019.

[39]   Habermas J. Knowledge and Human Interests. London: Heineman; 1972. Transl. Jeremy J. Shapiro.