

Ruth Edith Hagengruber

Out of the Box – into the Green and the Blue¹: A Plea for a Post-humanist Information Society

1. Out of the box

Around 1500, a century on the verge of a new age – comparable in part to ours, as the age of the multiplication of knowledge was about to arise and the new printing technique changed the world of texts, knowledge and images – the collapse of Aristotle's knowledge hierarchies was prominently depicted in Hans-Baldung Grien's wood-cut, »Phyllis riding Aristotle«. It was by no means a singular event, but »re-produced« a thousand times in a thousand styles. It was the evidence that the »boxes« of dominion had been turned upside down.

At that time, Aristotle was a target of critique in various ways. His preferred organization of human society was quite clear. There was a man, a wife, a slave, a house, and a community and all this formed the ontology of his description of society. Each person, animal and plant was pressed into its corresponding »box«, which gained its essential meaning by being »part of« of a function-driven hierarchy.²

There was another issue that broke down during the age of humanism. The earth was the center of the universe, as everything fell upon it, Aristotle claimed, organizing spherical boxes in the universe which were piled on top of each other, although they groaned and creaked when applied to clearly perceived phenomena. In addition to

¹ This essay is a comment on Luciano Floridi's investigation into the »The Green and the Blue«, presented in Floridi (2020). He defines the concept of the Green and the Blue: »The title of this article takes up an idea, expressed in an article I wrote some time ago, on the need to unite green environmental policies (green economy and sharing economy) with blue digital policies (service economy), in favour of an economy of experience, that is, centred on the quality of relationships and processes, and not so much of consumption, that is, not so much centred on things and their properties.« (309).

² See Aristotle, *Politics*. See also Floridi (2020), 311.

the prominent subjugation of women and slaves demonstrated in the Aristotelian political hierarchy, the stiff ontology that also branded his cosmology was shown to be wrong. Neither was the earth the center of the universe, nor were women the receptacles for male seed.

Cosmic and political hierarchies were questioned. Giordano Bruno was burned, and Tommaso Campanella spent twenty-seven years in prison, both punished for pointing out the shortcomings of Aristotle's ontology. As a better option, they were [123] eager to present a philosophy based on the art of memory in Bruno's work, presented in the metaphysics of a functionalizing model of interrelatedness. In this model, a unit is not seen as an immobile entity, as a part in a system of wholes, but as the capacity to entail differences, the more, the wider, the better and the stronger. The turn from a part-whole driven ontology to a perspective of things as objects of information began.³

Platonism returned after having been hidden and even forbidden for many centuries. A new thinking emerged. It was what we define as the age of Humanism, which changed the prevailing political and ethical ideas of the time. Due to this change of thought, the sciences, absorbing the new information of interrelatedness, re-emerged and flourished after first having to combat the Aristotelian cosmology, biology and more.

What is branded as the Renaissance idea was the endeavor to prove how things in the world were the opposite of what Aristotle had preached. Everything was connected to everything, and knowledge was, according to the metaphysics of Tommaso Campanella, the ability to bridge the strongest opposites. Knowledge is defined in Campanella as the capacity to integrate the most striking differences, as it was meant to understand the implied similarities within. Instead of division and boxes, it created a world of interrelation and a completely different kind of scientific architecture.⁴

The new philosophy of that era criticized a scientific system based on fixed categories and the identification of entities by means of their functions. The »lego-like« structure (Foridi 2020, 311) had to be overcome, as it narrowed the possibilities of thinking about reality. Reality was frozen in an hierarchically organised ontology,

³ This is strongly defended in Cassirer's early writings, such as *Substanzbegriff und Funktionsbegriff* (1910), and his later writings. See there chapter two, »Kampf der Platonischen und Aristotelischen Philosophie«.

⁴ Campanella (1637). See also Hagengruber (2015).

completely contrary to what Plato had questioned. Plato followed the example of »emerging knowledge«, as he presents in the *Meno*, when the slave is able to recollect the knowledge of the squared square, one of the many epistemic features combatted in Aristotle's ontology. The Aristotelian theory of vision subjected the whole cosmos to the perspective of the human being and confirmed his perspective of the white male through vision and function.

Based on these functionalized units, a static society and knowledge theory was established. It could not reflect the real world, but in a tautological confirmation it reflected a reduction of a complex world structure, which organized its organisms, bodies, cities, states and plants into »wholes« claimed to be more than the parts.

Aristotle was derided by the new cosmologists and by women during the Renaissance. They all left the box of his world construction. Women overturned the box Aristotle had designated for them. Others moved the earth away from the center of the universe where it had been fixed, also for reasons of hierarchy and the confirmed vision of a human-centered definition of the cosmological movements.

The political innovators of that period agreed with this. Be it in Thomas Morus' [124] *Utopia* or in Tommaso Campanella's *City of the Sun*, the cosmological as well as the social relationships were reorganized. Campanella created a different understanding of sciences, in which different sexes, different nations, and every part of the universe interacted with each other to the advantage of all. It was a decisive step toward leaving the box. Social organization and encyclopedic interest formed a new understanding of science that reaches into our present age in a forward looking way, because it explains and determines sustainability through diversity. One's own measure of knowledge is measured against the measure of the other. Thus, there is no determination without taking the other into account (Hagengruber 2015). There is even no place for humanity's supremacy over nature and the cosmos.

2. Beyond humanist and scientific ideals: The World of the Green and the Blue

The system of the Aristotelian »box« delivers a political and consequently also a scientific system that defends and is bound to an epistemology of hierarchies. Therefore, the age of Humanism is still

the ideal of a liberal political society that combats the constraints of white male supremacy as presented in Aristotelian politics and was meant to understand all humans as equal, though it failed in doing so, as we clearly understand today. Even now, these humanistic ideals still feed the principles of those who see themselves endangered by the power of an information driven society. The claim for personal rights, founded in the age of Humanism and defended throughout the history of political thinking, is the shield against a new knowledge system that seems to deprive the individual of their rights which were created in that era and have formed our political self-understanding since then.

Humanistic values shaped in an anti-Aristotelian period in European history determine our political judgments as well as our political taboos. They impart who is on the good side. Their claims are repeated in the journals and drive the division between good and bad. The European value system that defends and protects the free and equal individual against being pressed into the boxes of tyrannical hierarchies is one of the most important contributions of this philosophical tradition to the world's value catalogue. Secure fundamental and individual rights, the freedoms of speech and assembly, and the right to express opinions and criticism stem from this, opposing the hierarchical box system which was and still is seen as tyrannical, thus being an important ethical weapon against those who deny it. Kant emerged as the great philosopher who articulated this new freedom as one that is logically compatible and coherent in itself. We can all be equal and free. Kant's definitions are the basic inspiration for the United Nations and the fundamental basis for a political philosophy of equality, the non-racist, non-sexist, and non-supremacist coordination of free individuals, though we are not completely sure how far Kant was able to follow his own ideas.⁵ And yet, this was one step of many to go towards *the Green and the Blue*. [125]

Kant's breakthrough opened up the social space, but also that of science (Kant, Critique of pure reason, § 1–7). When he made space a property of the subject, the social and physical world were changed. He had overcome the physical space system that still imprisoned the

⁵ Kant (1795/1968), *Zum Ewigen Frieden*, see »Dritter Definitivartikel zum ewigen Frieden«, »Das Weltbürgerrecht soll auf Bedingungen der allgemeinen Hospitalität eingeschränkt sein«. Doubts are raised if Kant came up to his own demands, compare the debate at the Brandenburg-Berlin Academy, questioning Kant as a racist: Esser/Willaschek et. al. (2020/21).

scientific world, shaped by the »absurdities to be found in Aristotle and Newton«, as Du Châtelet stated (*Naturlehre*, preface X).

The philosophy of the interrelatedness of the knowledge space did not only change the philosophy of social beings, but also extended our view of the world and where the social beings were nested. The humanist-based supremacy of the *Anthropos* had to be overcome. Newton's closed space was another obstacle on this path. The things we perceive are not to be found in a vessel named space. Space is the condition of our understanding of anything there is, a dimension that we presume in order to create a world of related entities, also dependent on our capacities and imagination.

The next step on this path »out of the box« is described by Floridi's *Fourth Revolution* paradigm (2014, 21). The human being had been displaced from the center of the universe and did not like the Copernican revolution. Further, humans were expelled by evolution theory from being the peak of the biological kingdom or the masters of their own rationality when Freud shattered the illusion of the conscious subject. The last realm was that of human intelligence, but Turing displaced humans from this privileged position. Now, we are back in the world. The megalomania of anthropocentric pre-eminence has not necessarily been lost with the rise of the intelligent algorithm, but its use can be understood as a free decision to better understand and to take into account the world's complexity regarding its importance for the human being. Man made himself small again to survive.

Post-humanism says that the human being has become aware of its own part in the interrelated world of *the Green and the Blue*. Human excellence leads to the insight that the machines we have created help us to understand that true supremacy means understood dependencies and interrelatedness. It requires a large amount of intelligence, whether from machines, humans, or nature, to understand that renouncing the idea of pre-eminence is part of a true insight and its denial is a cause of harsh cruelties.

The post-humanism of *the Green and the Blue* is only another step in the series of »lost uniqueness« and domination. It is the path to a new way of understanding ourselves as »inforgs«, that is, as organisms to the extent that who and what we are results from the information we have about a topic. Further, this information is not objective or static, but emerges in a phenomenon resulting from the informed relations it is a part of and knows about.

The frontiers of space have been broken down, as well as the arrogance of the egocentric (white male) human. Science is now broadly understood as being part of the big »infosphere«. (Floridi 2014, 24). There is no archidemic point of view, either to the good, or to gain knowledge. There is no single action of goodness, but for [126] every single relation there is the demanding challenge to adapt to the needs and the existence of *what there is*. *What there is* expresses itself through information.

While the humanists subjected the world to the servitude of the liberty of the white European male, going beyond this humanistic view into a post-humanist world means to understand that we are connected by the information we gain about where we are nested. The *post-human being* characterizes itself by what it is able to integrate into its own understanding, that of males, females, animals, plants, stones and water, valleys and flowers. It sees *the blue* not only as the collection of a party of people or nations, but as the open schematism that entails the social life in this world, whose borders are liquid towards *The Green*, which is not »the other« to *The Blue*, but both are representations of interrelated re-identified entities, different, as seen from a different perspective.

This info-space is a huge relational pattern system that has emerged by our own activity and by the means of digital information. This kind of understanding has not appeared for the first time. It is an ongoing striving to understand the world more profoundly. Finding ourselves in a different way thanks to the invention of our own imagination and technology, we make ourselves aware of being part of the age of the post-humanist information society. Our responsibility is growing as our knowledge does. It extends far beyond us, into *the Green and the Blue*.

3. Mapping the multitude⁶: A new epistemology

When the physical universe is seen from this dynamic point of view and when this interrelation⁷ becomes a reality for society

⁶ Some of these ideas I have presented in Hagengruber (2005).

⁷ See Floridi (2020), 315 note 7: »All entities are reducible to bundles of properties, and all properties are reducible to n-ary relations, so all entities are reducible to the totality of bundles of relations. Behaviours and changes in properties of entities are

and the world of »matter«, that is the physical universe, then it is the information gathered that counts and expresses the process of exchange and relations. It is the other to the »Aristotelian–Newtonian Ur-philosophy of things«, squeezed by and in time and space, and its concept of action is defined by the function of the organization of the »boxes«. It leaves behind the concepts of »body, organism, or system, ... coordination, cohesion etc. ... all based on this Ur-philosophy« (Floridi 2020, 325)

What we experience now, quite differently, as we »de-individualize« and »re-identify« (Floridi 2014, 26) is to understand that we are part of the knowledge structure and part of the universe of *the Green and the Blue*. This changes our idea of »humanism«, and consequently our idea of science. The box-pressed contents of [127] science have passed by. They were the ladder that is now useless in the world of informed interrelatedness.

Being confined to an informed interrelatedness means finding its limits in the actual situation, in the understanding of being interrelated by the information we gather and connect, i.e. in algorithms. It is not yet Utopia, but it is truer to reality than living in the box. The *informed interrelatedness* sees clearer about its own confinement. The process of knowing and understanding speeds up, becomes wider, more open. It is not less stable, though it is less fixed. It is prone to deception, but it also reflects *what there is* with greater probability and approximation.

Perhaps the advantage of the *informed interrelatedness* that forms the *post-humanist information society* can be compared to the advancements in science, which are all for the good and the bad, as there is no good without the bad, no knife that is limited to cutting bread and incapable of causing pain. Its progress might be understood as analogous to the invention of the microscope in biology and medicine. Now we see more clearly what has always been there, and this is why we are urged to see things differently. The *ambits of validity* of what we understand are new, varying with what we thought we knew, and providing a different view of reality. It is similar to what happens to Einstein's famous formula $E = mc^2$, which substantially changed our

then reducible to state transitions, and the latter are reducible to transitions from one set of relations to another. In short, one can use the vocabulary of relations to speak of entities, properties, actions, and behaviours – and that is all that is needed. Note that this is not a metaphysics, but a way of describing the world at a relational, instead of substantial, level of abstraction. That is, it is an epistemological ontology.«

view of the cosmos, but it takes time to understand how it shapes our physical reality. It creates and it exists in an *ambit of validity*, which is not a box, but a well-defined inter-related status from which various things emerge, not seen in this form up to now.

The status of *informed interrelatedness* is a kind of *ante quem*, instead of the *post quem* box world of stiff ontologies. It, so we hope, comes a step closer to the world as it is. Take, for example, the divisions of the box-ontology, that create obstacles of knowledge where no obstacles are in the real world. Take the example of the apple in the world of scientific description. Though chemical and physical patterns allow predictions regarding this within their own ontologies, and they share the same reality, their formal descriptions are nearly incompatible. It seems as if they are only loosely connected, if at all, divided because of their representation of reality. The world of informed relations offers its ambits of validity, which do not know these boxes but promise to proceed differently, acting on the basis of reality-based learning algorithms, for example (Hagengruber/Riss 2007). When an ontology of »bricks« and »boxes« creates and limits knowledge, *informed interrelatedness* seeks to enlarge the data-based reality, and to overcome the constraints of limited domains of knowledge, as the essential part of its epistemology, seeking in this process to approximate reality on the basis of its information.

4. Digital tribalism

Algorithms are not perfect and machine learning is constrained, seemingly a miracle, for good and bad, a mighty tool compared to what we knew before and to what we were able to make available before the information age. Information was limited to a few who used it as an instrument, for good and bad. Now, it is open to [128f] the masses. Technology is constrained by those who define and create it, and even more by those who use and abuse it. Though these tools deliver information to bring us much closer to the *Green and the Blue*. What is valid for Aristotle's »knife« is true for anything in the world. There is no »good« per se. This, of course, also holds for any machine-learning application. The threat that comes with this informational capacity is not smaller than those before. Specifically tailored attacks simulate taking over states and infrastructures and deride the trust of an informed world view. As we see more clearly and

as we see more, the »naïve-fiction« (Floridi 2020, 310) built upon the trust that we are moving forward is in danger, as it has always been.

Algorithms have always dominated our lives and have always helped us to get from one place to another. We have learned to »know« and also to understand as we begin to understand the procedure, as did Socrates in the *Meno* with the slave and as did Plato, when he explained the power of knowledge: To know the way to Larissa, you must not have gone there. (*Meno* 97 b).

The capacity provided by machine processing follows a seductive implication. However, the fact that this information production records a huge (not infinite!) number of things, and each term can (theoretically) be characterized by a huge (not infinite) number of properties, the result of this multitude *is not* what mirrors reality. It occasionally does not make sense at all. But this seems to be the most difficult to understand, when the surprising capacity of these knowledge tools provides us with so many hits. The sense of it is not implied. It has no meaningful presentation of the knowledge of the world. We even have to rethink the tradition of European philosophy, that dreamt the (white males') dream that the machines could drive the algorithms back and forth and thus know the past and the future, as was provided in Leibniz and dreamt by Laplace and is still the dream of Domingos (2015) and many others. This world cannot be algorithmically reduced to its starting points, but it is possible that the best of all possible algorithms provides predictions and tendencies. Though it must also be admitted that these never predict the future, as they are all built upon ideas (and thereby the selection of entities) of *post quem* data. The data procured by learning machines provides powerful insights, but can never forecast reality, although it produces abstractions that can be roughly applied to our understanding of reality. These abstractions do not include enough information to catch reality, but do offer a much broader base by including parts of information that were previously neglected, as we were not able to process them. Now we have instruments to do so, but hereby also instruments to abuse the material helpful for insights. It is not *re-production* of the world. Much more, it is the end of the myth of the world's reproducibility.

The *Utopia* by Francis Bacon is an example of a utopian scientific understanding that has come to its end now, as the age of the dream of Francis Bacon of full reproducibility seems to be fulfilled. But the contrary is true. The more data we have, the better we understand that

it is an infinite process to include the information about *what there is*. The *New Atlantis* of Bacon is the model of an exploitative technology that dominated previous centuries. Science is no longer the means of re-production nor of imitating the world as it is.

The idea of technical reproduction usually ignores that technology is infused with [129] »values«, values understood in the sense defined in this context as the selected re-arrangement of information and consequences. That is, applied technology infuses its application with something new, which adds to and even distorts a process it supposedly replicates. The idea that a part of nature could be used and selected as reproducible is due to »box« thinking, which has now been dismissed. The philosophical ideas that defined the last centuries assumed that the reproduction of the »boxes« of reality were a »value free« technology. Mathematics, economics and other agents could act upon them without taking into account that the action itself produced changed conditions. The applied »objective« methodologies were based on the assumption that the »box-entities« were not related to other complex parts of nature or society. It was a long and painful process to understand that »values« express these interrelations, which could not be otherwise expressed. (I will come back to this issue, presenting how Max Weber argued for such an »objective« methodology). The »values« denied by former methodologists are in truth these unknown relations and interrelatedness that are now better understood by means of information technologies. With »values« we make explicit what otherwise remains »implicit knowledge«.⁸

Today, thanks to the tools of artificial intelligence, we also better understand what »artificial morality« is, that is we understand that all these processes of *the Green and the Blue and The Grey* – if we attribute grey as the symbol of the tools of information – are intertwined. It is now necessary to build a new kind of value determination that is able to give us a lead in the handling of this immense amount of data.

As there is no way to change the extirpable fact that things can be used for good and for bad, we are aware that in the age of an *Information society*, we become victims of manipulated interrelatedness. While technocrats still dream the dream of creating master algorithms that forecast the present and the future, the race to infinite knowledge through different methods is, nonetheless, a limited one. Each algorithm, be it evolutionist, symbolist, based

⁸ Polany (1966); Nonaka/Takeuchi (1995).

on the connectionist method, or on the Bayesian procedure, only selects data according to a given scheme. As differently as all these methods function and connect data, this is true for them all. Even bringing all these methods together does not erase the basic problem, that the selection and connection of data is not »reality«-like, but a »valued« picture of reality. The outcome is never a description of the real world, but an immediate specification of possibilities that statistically matches reality. This outcome reflects values within the applied connections of numbers. The »morality« of artificial systems is what has proceeded patterns of actions determined by determinants. However, the »maladie de l'humanité« has not been erased by it. The abuse and manipulation of data is an act of bad intention, but it is true that all data is manipulated information as the construction of data description is not »real«. Any algorithm is selection driven and, of course, by no means reflects the real world, but the elements of the technology used. However, many individuals no doubt feel ensnared by it. [130]

Ayn Rand, the defender of capitalist thought and of the human creative mind brings in an interesting point. She completely ignores that there is a European humanist tradition and denies that the humanists, among them many women, gave birth to the struggle and fight for equality and liberty (Rand 1990). She holds that »the concept of man as a free, independent individual was profoundly alien to the culture of Europe. It was a tribal culture down to its roots«. Though this is contrary to what is defended here, her definition of the tribal interestingly fits with what is happening today in social media. What Rand describes as the failure of a tribal culture is applicable to the algorithmic-driven organization of society. In her view, tendencies such as anti-globalism, racism, and superiority are based on irrationalism and the negation of the individual. The comparison of algorithms employed in social media with factors of tribalism is convincing. Though algorithms are based on Big Data and provide knowledge that allows us to understand the world more inclusively, these algorithms organize all data-providing individuals according to their scheme of community, which ends in a *manipulated interrelatedness*.

And as the navigation system sometimes leads you into the wrong road and you need reality, for example in front of a river you do not want to drive into, or a one- way street where it is too dangerous and unlawful to drive, you need to find a way out, though you do not doubt the helpfulness of the GPS per se. This

example, easy to understand, is also true in all the cases where automata lead the selective procedure. But as we find ourselves within it and guided by it, this »new world« appears convincingly similar to the »real« world. You find yourself a part of entities you never thought you would be. You find yourself forced into a »tribe«; the machine has subsumed you. »Likes« and »dislikes« create entities and groups.⁹ These functions are a new kind of tyranny that adds you to boxes you did not previously belong to, or at least, that do not fit to you, seen and understood as an interrelated being.

These machines do not want to control our future and do not want us to hate our neighbor, as tyrants did. The algorithmic tribalism is a provision, not a physical threat. This does not mean that it is less dangerous. More than ever, a liberal spirit, the insistence on transparency, and education are the keys to overcoming this threat.

5. Can AI be a good thing? A try

The paper *the Green and the Blue* asks how political thinking and practice in a mature information society can be patterned. Floridi brands his view as a »naïve« approach if »forward« is a return to naivety. »This shift, he holds, is more flexible, inclusive, and unbounded«.¹⁰ How does artificial intelligence help to support the [131] good we are striving for? The good defined and asked for is not a new God, it is the understanding of being interrelated. To know more is the only way to follow the good and to do better.

When we apply these ideas to the realm of economics they become clearer, as so many of the failings of capitalism are due exactly to this ignorance and lack of information. The idea that the implicit ethics of an information society can perform a turn from quantitative economic growth theories towards a »new« economics of quality is

⁹ I am grateful to Dorian Weiss for bringing together the procedure of social media algorithms and tribal collectivism in Ayn Rand in the seminar.

¹⁰ Floridi (2020), 316: »naïve-fication« to use a neologism – has been pursued in this article to give space to social altruism; to the intergenerational pact; to care for the world; to the sense of common homeland; to civil and ecological liability; to the political vocation as a service towards institutions, the State, and the *res publica*; to a cosmopolitan and environmentalist vision of the *human project*, understood as a society and life that we would like to see realized in the world; and finally the possibility of talking about good and bad politics.«

therefore justified (Hagengruber 2020). Though the application of AI has disruptive effects on the economy and society and demonstrates a new kind of monopoly and economic concentration and has deepened the gap between developed and developing countries up to today, it is not absurd to ask if informed economics has a favorable effect on economics when drafted on the above basis. The question of how to sketch an inclusive and sustainable technological change, proposed by Gries (2020), is a necessary demand on the possibilities of AI: inclusive, sustainable and paying attention to human's nestedness.

We all understand and have long been confronted with the absurdity of a growth economy. Robert Kennedy's famous speech on how we count and what we produce for the wealth of a nation caricatured this reality many years ago (Kennedy 1968). Yes, AI driven economics can be used and can contribute to the much needed market transparency, always blurred by social and capitalist hierarchies, to end or to reduce the impact on the environment and the effects of exploitation. The Big Data administration has the capacity to unveil those secrets of »hidden economics«, that have been active in the economic background and whose effects have been so misunderstood and misjudged as being non-important parts of it, therefore ignored and negated.

AI has the capacity to provide the means to enforce the change from a quantitative to a qualitative economics and to support a more inclusive and a more qualitative growth. Decisions made in economics can become more transparent, taking relatedness into account in the decisions that define the economic process and that influence its effects. The question is, how can *informed interrelatedness* make the still hidden but relevant processes visible and, even more, eventually bring them into an accountable context to drive a change for the better?

The neo-classicists and those driven by the phantom of an economic »objectivity« ignored the »value« factors and prominently and actively argued to deny, ignore and expel them wherever they became visible. Max Weber argued that value-driven subjectivity was irrational. According to Max Weber, macroeconomics and price stability require destroying and discarding food. Value-driven subjectivity abhors and forbids these actions that, however, cannot be part of an objective economics which must ignore these subjective factors of irrationalism and morality. Max Weber, of course, was not the only one to hold this belief, but the one who discussed the [132] conflicts

between the objectivists and the (ir)rationalists.¹¹ This ignorance and active exclusion of information, however, has its price, as we know today. Economic goods are presented in a box-world; they perform as »cut-outs«, cut off from any relation the world is nested in.

Realities that are closely involved in an economic product and related to it, in the sense of what we understand to be part of a holistic economy are actively ignored. In doing so, many relations and services are also cut off, reducing the importance of many activities and goods that are part of the good-productions, such as the services for people, mostly done by women, the service of good education, of growth relation and much more. As an ignored part of the production of goods, the ignored though interrelated parts are visible today. This refers to the economic impact of forests lost, pollution, the toxification of the environment, of animals and of ourselves. The supporting issues of the economic processes, such as forests erased, the servitude of women, white predominance, healthy or unhealthy food, are not taken into account when production costs are calculated. This ignorance leads to situations of human, animal and environmental exploitation. All these issues were judged as not relevant for the production process; now, in the age of an information society they are pulled out of the box to make us understand the causes of our ignorance and consequently our wrong-doing.

»Good economics« is compatible with the world of *the Green and the Blue*, and artificial intelligence and the means it provides is a powerful tool to support our changing path in this new direction. This new direction is not a different goal, but a different methodology to better understand. It is better, as it promises to be even closer to reality, the more we include our information about the *the Green and the Blue*. The more we are able to understand our interrelatedness, the more we will be able to organize our reality differently.

Hazel Kyrk, Professor of Home Economics, was at the beginning of that movement when she started to preach that waste management is a part of economics. She is not the only one who understood and recognized that »waste« is a productive resource. Methodologically, she understood that the production of economic goods is not the only side of the coin. Today, waste economics is not only one of the most productive aspects of economics in the world, but also a necessary field for a wholistic economic understanding (Van Velzen 2003).

¹¹ Weber (1991), 222–232; Hagengruber (2000), 83–95, esp. 84–85.

Another important factor that easily demonstrates effects of a qualitative information gain is warehousing. Big data will not only enable us to improve the circulation of goods, but also provides for a much larger and more detailed and individualized scale of products. This can already be seen in the field of individualized medicine and drugs. When the goods provided in this new economy are produced by taking into account the production interrelatedness – and this means how people are treated and goods are provided, with a view to the whole chain of production and procurement – this economy not only produces under fairer production conditions; it also contributes to a much truer cost calculation. Everything has a price: service, education, the protection of the environment. A well informed *Information [133] Society* has the capacity to see and understand this. Over-production, super-logistics, pollution, and exploitation are becoming topics of awareness and can be handled differently when the data is permanently connected in a way we are aware of.

To better understand the interrelatedness and interdependency and to start from that basis to work towards the good in society is the next goal.

6. The post-humanist information society – A step into the *Green and the Blue*

Human beings have presented themselves as political animals, as Aristotle said and humanists confirmed. From today's perspective, the Aristotelian political system was built upon hierarchies of dominion. There was a man, a wife and a slave, a house and a community and all this formed the bricks of the »boxes« that gained their essential meaning by being »part of« a function-driven hierarchy. This system of boxes was applied to communities, countries, and science. It was a first revolution when the humanists explained that this kind of dominion and suppression had to be overcome and they started to preach and to argue in favor of the equality and liberty of all human beings. Each one had the right to strive for happiness. In the age of information science, we begin to understand that we must go another step forward. Our happiness is bound to the prosperity and flourishing of the *Green and the Blue*. And it is due to the tools of knowledge that we not only understand the need for this new ethical system, but that our understanding of being related is the ethics we have to follow.

Humanistic political liberalism has been an important step on our way to breaking down the dominions of our political and consequently also our conceptual thinking. Once again, it becomes clear that philosophical ideas shape the world of science and the philosophy that has dominated the »boxes of our understanding« for so long has to be overcome now. Our direction is to integrate what is possibly knowable to better understand causes, relations and phenomena. On our way to exploring this interrelatedness in its depth, intelligent machines are an important instrument to allow us to learn and to understand where we are and what we do in a much wider context.

We have moved out of the box and ahead of us lies the inclusive world, presenting itself as much more united thanks to the technological means that allow us to handle the information we are now able to gather, and to improve what we know. This is no license for other kinds of violence that can be executed by these instruments and that are already reality, such as the violence of manipulation. The post-humanist era is arising, presenting itself as another big step towards inclusion. The kind of philosophical education we need for this must still be determined. It is clear that its importance will rise with it. [134]

Bibliography

Campanella, T. (1637), »Instauratio in prologum instauratarum scientiarum«, in: *Philosophia realis*, Paris, 1–33.

Cassirer, E. (1910/2020), *Substanzbegriff und Funktionsbegriff*, Hamburg.

Du Châtelet, E. (1743), *Naturlehre*, Halle/Leipzig.

Domingos, P. (2015), *The Master Algorithm*, New York.

Esser, A./Willaschek, M. et. al. (2020/21) »Kant – ein Rassist?«, in: <https://www.bbaw.de/mediathek/archiv-2020/kant-ein-rassist-interdisziplinaere-diskussionsreihe> (Februar 15, 2021).

Floridi, L. (2014), »The Fourth Revolution in our Self-Understanding«, in: R. Hagengruber/ Uwe V. Riss (eds), *Philosophy, Computing and Information Science*, London, 19–29.

– (2020), »The Green and the Blue. A New Political Ontology of a Mature Information Society«, in: *Philosophisches Jahrbuch* 127(2), 307–338.

Gries, T. (2020), »A New Theory of Demand-Restricted Growth: The Basic Idea«, in: *The American Economist* 65(1), 11–27.

Hagengruber, R. E. 2000), *Nutzen und Allgemeinheit. Überlegungen zu grundlegenden Prinzipien der Praktischen Philosophie*, St Augustin.

- (2005), »Mapping the Multitude. Categories in Representations«, in: *Proceedings of the 3rd Conference Professional Knowledge Management WM 2005*, LNCS, vol. 3782, Berlin.
- (2015), »Soziale Organisation und enzyklopädisches Interesse«, in: O. Höffe (ed), *Politische Utopien der Neuzeit*, Berlin, 139–171.
- /Riss, U. (2007) Knowledge in Action, in Stuart, Susan & Dodig-Crnkovic, Gordana (eds): *Computation, Information, Cognition. The Nexus and the Liminal*, Cambridge, 134–147.
- (2014), *Philosophy, Computing and Information Science*, London.
- Kant, I. (1781/1968), *Kritik der reinen Vernunft*. Berlin, Vol. III.
- (1795/1968), *Zum Ewigen Frieden*, Berlin, Vol. VII.
- Kennedy, R. (1968), <https://www.jfklibrary.org/learn/about-jfk/the-kennedy-family/robert-f-kennedy/robert-f-kennedy-speeches/remarks-at-the-university-of-kansas-march-18-1968> (15 Feb 2021).
- Nonaka, I./Takeuchi, H. (1995), *The knowledge creating company*, Oxford.
- Polanyi, M. (1966), *The Tacit Dimension*, London.
- Rand, A. (1990), »Global Balkanization«, in: *The Voice of Reason. Essays in Objectivist Thought*, New York, 115–129.
- Smith, B. (1995), »Formal Ontology, Common Sense and Cognitive Science«, in: *International Journal of Human Computer Studies* 43, 641–667.
- Van Velzen, S. (1990), »Hazel Kyrk and the ethics of consumption«, in: D. K. Barker/E. Kuiper (eds), *Toward a feminist philosophy of economics*, London, 38–55.
- Weber, M. (1991), »Der Sinn der Wertfreiheit der soziologischen und ökonomischen Wissenschaften«, in: *Schriften zur Wissenschaftslehre*, Stuttgart, 176–237.

