

Pandemic Luhmann

Paul-Marie Boulanger

Institut pour un Développement Durable (IDD), Ottignies, Belgique

pm.boulanger@skynet.be

Andrea Saltelli

Centre for the Study of the Sciences and the Humanities, SVT - University of Bergen (UIB) and Open

Evidence Research, Universitat Oberta de Catalunya (UOC), Barcelona

andrea.saltelli@uib.no

Abstract

In the midst of the COVID-19 pandemic, important transformations are taking place while a dense veil of uncertainty clouds the way out of the present predicaments. This short, impromptu comment, based on the theories of German sociologist Niklas Luhmann, plays the game of “What would Luhmann have said”, without the ambition to predict actual outcomes, but just as an exercise of interrogating his theory. Of course, Luhmann’s own brilliance would have considerably helped.

Keywords

Autopoiesis, Covid-19, digitalization, nation state, politics, science, structural coupling, technology social systems theory, world society.

Context

In a previous work we addressed the ramification of the crisis between science, media and society, as read through the lenses of social system theory [1]. We now explore the COVID-19 pandemic – in which the relation between these systems is even more strained[2], in light of our diagnoses, looking at how different social system are affected by the new reality. We look at what system has been affected the most, in terms of its autopoiesis having been seriously compromised, at system where the communication has been accelerated, and at the maturing of existing systemic contradictions and conflicts.

There is no lack of existing analyses committed to a normative reading, whereby humanity worse or better nature will eventually prevail, i.e. the pandemic as the theatre of the eternal fight between the good and the evil, between selfishness and generosity, and the outcome as the triumph of hope or despair. The present reading will look instead at what the involved systems can be seen doing, or anticipated to be doing, in light of the theory.

Previous work

In [1] we looked at the mediatization of science [3], its commodification [4] and politicization[5]– as a consequence of the structural coupling of different systems – economy, science, media, policy, following the conceptual scaffolding of social system theory. According to this theory, due to Niklas Luhmann [6][7], a German sociologist, each system communicates using its own code. The codes are true/false for science, profit/loss for the economy, new/no-news for the media, functions/doesn't function for technology, and so on. We diagnosed in our work a situation where science's code true/false is corrupted or colonized by those of the other systems. An important element of Luhmann's theory, borrowed from a branch of theoretical biology developed by Humberto Maturana Francisco Varela, is that of autopoiesis, whereby each system strives to reproduce itself as a network of components that reproduce the very elements from which it is made. Systems influence each other via 'resonance' or 'irritation', in a network of tight couplings. The activity of a system can force another system to complexify its operation, as for example when the policy system seeks new way to levy taxes on the economic system, which reacts finding new, more complex ways to elude the new rules. At the same time, for Luhmann, every system includes elements of paradox and improbability, which are also one reason for systems continuous transformation and evolution.

What happens when science's true/false code is corrupted by profit/loss, news/no-news, functions/doesn't-function? We spoke of this as a nexus, a state of enhanced 'irritation' between social systems, as per the theory of Luhmann. The enhanced scope for communication offered by the media, new and old, impressed an acceleration to this irritation – we called it a vortex, where ruthless exploitation of the new means of artificial intelligence contributed to the consolidation of what has been variously termed platform [8] or surveillance capitalism [9], with a general effect of increased inequality and power asymmetry. How does this picture change with the irruption of the COVID-19 pandemic? What are its reflexes on the mediatically busted nexus between science, society and

technology? What its broader implications for humans, their psyche and the environment? Without presumption to answer these questions, we sketch here a few reflections ‘*a caldo*’.

Are nation states back?

At first glance, the current pandemic is dealing a severe blow to Luhmann's theories. Indeed, he conceived of current society as a “world society” structured on a functional basis and not on a segmental or stratified one, and yet we observe that there is no global strategy, but instead a lot of different ways for every country to deal with it. Likewise, he conceived of the world society as heterarchical, that is as an archipelago of autonomous (though interconnected) systems in which the powers of (political) power, money, science, the law, the media check and balance each other so that none is able to control and steer the others. The possibility exists, as argued here above, that a societal system becomes overwhelmed by another one and irritated to the point of entering in crisis. However, the way it will deal with it remains its own and not that of other system. Yet, are we not witnessing a takeover of some other systems by the State? A takeover that goes through the physical immobilisation of citizens and thereof penalises all activities and communications that require the presence and proximity of bodies? Is the Covid-19 destroying the kind of society Luhmann correctly described, or just highlighting the failure of his theory in describing our postmodern (a notion he didn't like, by the way) world?

Indeed, this pandemic is a crisis hurting world society, but except for the more globalized systems – science, tourism, the financial system, and perhaps sport, other systems, such as health, politics and the economy (the “real” one), react on a segmental basis, every national state acting for itself, notably within an idiosyncratic relationship with its health system. This doesn't necessarily mean that there is a fundamental flaw in the theory of the world society as functionally differentiated. Indeed, Luhmann acknowledged that the world political system (as well as the legal system) is structured in a segmentary way. He also argued that from a systemic point of view, this feature allows the benefits of both redundancy and variety to be combined. Redundancy is necessary for stability, but variety is requested for learning and innovation. The fact that the different countries manage the crisis in different ways provides the variety from which learning and innovation opportunities arise. It provides valuable information about the best course of action, an information which would have been lacking if the whole world had been subjected to the same and unique strategy. On the other hand, these different experiences would have been lost without the so-called globalization of

our world society. We may insist, tautologically, that our society can be a world society only if every communication can connect with every other one, all over the planet. It is because we are living in a globalized world society that we are able to consider the various national experiences as relevant, comparable and as a global public good. Nowadays, public opinions in numerous countries will have comparison criteria to assess the way their own governments have reacted and make them accountable of their possible mistakes.

Admittedly, the segmented nature of the organization of the global political system has been both strengthened and made more visible - and not always for its best qualities, as a result of the health crisis. A typical dynamic of systemic irritation – at least as seen from the national perspectives of the authors, is politicians complaining of the lack of certainty (or at least of consensus) coming from science, pretending from science crisp numbers and solutions (as if the virus was an equation to solve). A desire of certainty may betray a politician's wish to present possibly painful political decision as inspired by science. On the opposite front there is no scarcity of scientists resenting politicians' inconclusiveness and wishing for experts at the helm.

Indeed, in a context of general shortage in masks and other medical instruments, we have even seen governments of several countries diverting mask shipments destined for other countries transiting through their airports. There are different ways to interpret what happened. One possible interpretation is that the health systems remain too tightly coupled to the political ones, to the point that almost all governments have been responsible of precautionary masks hoarding. This has made the care organizations much too dependent on political decisions, current ones as well as past ones. One can ask if hoarding medical commodities is an adequate task for the political system, knowing that governments are likely to change every 4 or 5 years and with them, the main orientations in health policies.

Luhmann was very sceptical about the possibility of the welfare state to keep up with its (too numerous and generous, he thought) promises. He feared that governments would generate public expectations that they would be unable to meet, thereby fostering a sense of political helplessness in the face of the challenges and complexities of today's world. The present experience of their inability to provide hospitals, retirement homes and essential workers with the necessary masks and testing equipment seems to prove him right. This will certainly leave some traces and, once the sanitary crisis over, a political one is likely to follow in some countries with a radical criticism of the way the present and past governments

have failed, first in preventing and anticipating the pandemic and then, in managing its consequences, especially if, as an aggravating factor, the crisis and the measures to fight it will reveal themselves as having contributed to increased inequalities and asymmetries of power [10]. In some countries, lawsuits have already been brought against the government. No doubt many will follow, putting some strain on both the legal and the political systems. The governments are at risks of being sued for having both done too little (in terms of prevention and preparedness) and too much in terms of suspending civil liberties.

Society and its environment

This is a crisis concerning the environment of society, men as biological organisms, and perhaps originating in the structural neglect – or instead the enhanced commercial use - of its couplings with its non-human, natural environment.

Many would subscribe to the statement that [11]:

...the coronavirus is not a 'natural disaster' as often claimed. It is the outcome of human actions which have created a system of agriculture which subordinates animal and human welfare to profit.

Actually, more and more viruses are migrating from wild animals to men because of the disappearance of the barriers between the two worlds, due to the intensified exploitation of nature allowed by the new technologies. It is a bit ironical that the only allopoietic organism in our living environment has been able to block the autopoiesis of some of our highly sophisticated social systems. That such a thing can happen demonstrates that there is a structural weakness in the functionally differentiated society. In any case, it confirms Luhmann's rather abrupt assertion that the only thing the environment could do to society was to destroy it. Another hypothesis that has been raised recently is that the virus has escaped from a virology lab in Wuhan. If this were to be the case, we would be in the now routinely situation of poor management of technological risks, more scaring or more reassuring depending on the cultural coordinates of the reader.

Hampered or accelerated autopoiesis?

Several functional systems are severely hampered: the financial sector, with its losses, the economic and productive ones, with their slowdown, and the sport and entertainment ones,

almost totally paralysed. Because of the confinement, all non-vital activities (including economic ones such as tourism and restaurants) requiring the physical presence of the participants and/or of the audience have been suspended. More generally, this is the case for almost all the social systems Luhmann called “interactions”. This shows the role interactions play in the other important Luhmannian characterization of social systems as either ‘functional systems’ or ‘organizations’. Organizations can be seen as systems whose communications consist of decisions; these need interactions to function, even if only to take decisions (meetings between decision-makers).

It shows also that one can pertain to the ‘environment’ of a system – i.e. the medium in which it is immersed, and nevertheless be indispensable to its reproduction, by the virtue of the structural couplings. As Luhmann famously argues, society are made of communications and not of individuals. Society and its members remain nevertheless tightly coupled, including in terms of humans’ own very corporeal reality.

That the autopoiesis of the economic system has been almost put to an end means that payments have been made (they had to) by consumers for buying food and paying loans or credits, insurances, etc., and by companies also, without most of them having the possibility to restore their capacity to make further payments. As a consequence, governments will have to go deeply into debt, making them in a near future highly dependent to the financial sector, jeopardizing their autonomy and capacity to act. Debates on these aspects have monopolized the agenda of European political debates at the time of writing. On the contrary, during the crisis, the health system, the political, scientific and techno-scientific ones, have seen their communications accelerated and increased, furnishing minutes by minute new (if not accurate) information for the media. However, it is epidemiologists, virologists, and modellers who took the lead in the media, with politicians conflicted between blaming science for lack of certainties and taking shield behind science to avoid painful decisions. For sure, Luhmann would have castigated the incursions of Presidents Trump and Macron into medicine. The former crossed the boundaries of the political system's competence and interfered with the autonomy of the health system by advocating chloroquine-based therapy against the advice of the majority of the scientific community. As for the second, by appearing to endorse the statements of Professor Didier Raoult, it has also been guilty of an inadequate and counter-productive incursion into a field that is not a matter of political decision making. Health policy decisions are only legitimate and therefore collectively binding if they are based on a

consensus of the medical community.

Science and technology

The acceleration of the scientific and technoscientific systems comes to a price. That of an accelerated maturation of structural contradictions [12]. In a particularly acute fashion one perceives today the paradox of a science that is at the time all-powerful, with the sinister power of the virus rendered via eye catching scientific/artistic images of its structure, and tens of new pharmaceutical implements under study, and the same science as powerless in charting a path out of the crisis [2], leading some to speak of ‘modernity without clothes’ [13]. The embarrassment of science to inform the choices of society is at its apex in the field of quantification, both in the reporting of data of implausible accuracy and in the generation of model prediction negligent of the attaining uncertainties [14]. Months after the onset of the crisis, key variables of the pandemic are surprisingly poorly known, leading a scholar to speak of a ‘ground-zero empiricism’ [15]. This generates new strands of irritation in the relation between science and society [2]. By contrast, philosophers seem more in their element when discussing the need for phronesis – or even metis, in the day to day handling of the crisis [16]. There is nothing that would have surprised Luhmann in this. He has always stressed that the more science progressed, the more uncertainties it created. Could the crisis lead to a re-evaluation of how science is perceived, expected, operated, and finally put to fruition beyond the existing ‘normal science’ paradigm [2]? With his scepticism toward post moderns, Luhmann would unlikely have expressed sympathy for these ‘post-normal’ claims. Or, maybe, he would have considered the new realities of science as self-evident. Didn’t he write that:

...the activity of experts advisers can no longer be adequately understood as the application of existing knowledge. While in communication, they have to withhold or at least water down uncertainties persisting in science, they have to avoid deciding political questions in advance as questions of knowledge Their advice conveys not authority but uncertainty, with the consequence that the experts appear to be scientifically untrustworthy while presenting political politically inspired controversies as differences in the assessment of scientific knowledge. As a result, they are likely to be regarded neither as scientists nor as politicians,

([17], p.114)

Digitalization

What is almost a certainty, is that the crisis is giving a new and powerful impetus to the ongoing process of digitalization of social communications in every functional system and also in organizational and, upper-mostly thanks to confinement, to interaction systems. The latter will probably not last, once the crisis gone. This is not the case for many organizations and even for whole functional system. For instance, it is likely that the sanitary crisis will leave lasting traces in educational practices. Indeed, the educational system has start making heavy use of digital technologies. Now that teachers and students have become used to communicate via platforms such as Zoom or others, they will probably see less utility in physical gathering in classrooms, except of course for exercises that really need it. The working and the funding of higher education is also likely to be affected, perhaps reversing the acceleration to higher costs driven by creation in the recent past of international rating systems leading to a global market for education [18].

More worrying are the possible aftermaths of the pandemics in some (if not all) political systems. In some countries (and probably, in more and more of them as the crisis keep going), the political system is making use of tracking technology in order to localize infected persons and avoid other people to interact physically with them. What is almost certain is that the law system, at least of western countries, is going to be seriously “irritated” by such uses of the internet and that the human rights advocates will have their work cut out for them.

How will this play out in relation to the scenario of a total control of the individual by “surveillance capitalism”? (an expression, Luhmann, for sure, would not have endorsed) Shoshana Zuboff quotes the theories of behaviour modification advocated by psychologist and behaviourist B.F. Skinner, as endowing surveillance capitalism with its methodological core[9], p. 361-375. Will the pandemic be the Eldorado of societal domestication and control hoped for by Skinner and feared by Zuboff? Where would have Luhmann sat in the hot debate between techno-optimists [19] and techno pessimists [8][20] on the impact of Artificial Intelligence and big data? Would he have feared the present pandemic as a golden opportunity for capitalism, in its ‘catastrophe’ guise described by Naomi Klein[21], to push its agenda? Luhmann would probably have dismissed both the debate about automated communism thanks to the prodigies of big data and artificial intelligence) [19][22]and that

about Klein's 'Coronavirus capitalism' [23], while probably not that about the deeper implication of information technologies on his own social systems theory. We can speculate that he would have agreed with Hannah Arendt (quoted by Zuboff [9], p. 382) that:

The trouble with modern theories of behaviourism is not that they are wrong but that could become true, that they are the best possible conceptualization of certain obvious trends in modern society.

Born in 1927 in Germany, Luhmann experienced and witnessed two totalitarianisms in his own country: Nazism and Communism (the latter only indirectly). He was able to observe that almost total control of the population is perfectly possible without modern information technology, simply by means of an abundance of manpower in the political police. It's doubtful he would have been impressed by this new threat. On the other hand, he is likely to have been more concerned about the rise of the extreme right in liberal democracies.

Furthermore, he has been often ironical about the unsuccessful attempts of therapists to change people's behaviours. We must remember that he conceived of individuals as "psychic systems" operationally closed and self-referential, just like social systems. These systems "interpenetrate" each other, irritate and stimulate each other but none can take the control of the operations of the other. Socialization, for instance, which has been considered by most sociologists and psychologists as a direct intervention of the society into the children's mind is seen by Luhmann as self-socialization [7]:

First of all, socialization is always self-socialization, it does not occur by "transferring" a meaning pattern from one system to another; its basic process is the self-referential reproduction of the system that brings about and experience socialization itself.

On the other hand, as Charlie Chaplin's "Modern Times" or Fritz Lang's "Metropolis" testify, fears and critics of the trends toward automatization of human behaviour by capitalism are hardly new. Taylorism had already endeavoured to transform workers into "trivial machines" (Von Foerster) but without lasting success. For the French jurist Alain Supiot Taylorism has been superseded by a cybernetic, homeostatic labour system driven by objectives [20]. For this author, this is but one among many dystopian consequences of the numerification of the real. In the new system, the worker is continuously, permanently

engaged in the quest to reach her of his objectives, within a social system where the law has been subjugated to a governance by numbers.

This blending of worker's own motivation and control by the organization is synthesized in Luhmann's sociology with the concept of "career", which he described as an "interplay between self-selection and other-selection", as "contingency being given a form" [24] pp. 72-77.

Finally, it could well be the case that Luhmann is more a humanist than many self-claimed ones, since he believes in the autonomy and freedom of "psychic systems" with respect to their social environment, and trusts their capacity to resist. Whether the upscaled power and speed of the new apparatuses of surveillance and platform capitalism would have changed Luhmann's views nobody can say.

What Luhmann saw very clearly is that the computer would "[...] attack the authority of experts".

In principle, everyone will in the future be able to check the statements of experts such as physicians and lawyers on his own computer. They may very well claim that there is no scientific evidence for the efficacy of certain medications – and we find it nonetheless. Or that there are no court rulings on certain legal issues—and we find them nonetheless. Although it is difficult to check how knowledge finds its way into the computer, it can at any rate not be turned into authority.

[25], pp.187-188. This quotation particularly resonates at a time when it is discovered that more than 40% of the French population is of the opinion, against the advice of experts (except one), that the chloroquine treatment of Covid-19 is effective.

However, information technologies pose a very serious challenge to Luhmann's theory, a challenge he was well aware of, but that have nothing to do with social control of individuals or abuse of power. As technologies of communication, they can accommodate power as well as resistance to power, true as well as untrue communications, moral or immoral ones. He was too scrupulous to indulge in speculations about the future impacts of IT but we can see in his last opus, "Die Gesellschaft der Gesellschaft" (1997) that he was really concerned about them to the point of writing that "The sole alternative to the consciousness/communication structural coupling that is emerging—with unpredictable consequences—is the computer [25] p.65-66.

Note the “unpredictable consequences”. However, and this is somewhat funny in our current circumstances, where smartphones are being used to prevent encounters between contaminated and non-contaminated bodies, he observed that:

...human bodies (at least in the current state of the art) are tied to connection points even where they are portable devices. As with television, this could lead to a reduction in chance contacts between freely roaming bodies.

([25] p.185). Jokes apart, the consequences he was considering are of a much deeper and fundamental nature than what Zuboff and others are referring to. It is not the place to discuss them here, but they could well be of the same magnitude than what the introduction of writing first, and then of printing, did to society and history. If Luhmann’s theory is the theory of the society of printing, then it is already obsolete and a totally new sociological theory is needed. It is something Luhmann himself acknowledged but, as Baecker argues [26] he might have felt that the theory of society of printing (his own) had first to be achieved, in order to be able to build the theory of the society of the computer.

Conclusions

Luhmann’s theory has no predictive power. It has even no explanatory power. It can just help us to make sense of what is happening, not THE sense, but one, amongst many others possible and not necessarily the “true” one. To do so, we have to ask ourselves not so much “what would have Luhmann thought?” but, rather, what tools does Luhmann bequeathed us for thinking by ourselves? The short and tentative considerations here above are far from giving justice to the depth and acuteness of Luhmann’s conceptual apparatus. More would be needed to give an accurate overview of the richness of his theories and make use them to understand the current situation.

On the other hand, the pandemic is far from behind us. At this moment, we still don’t know what really happened in our retirement homes and the Covid-19 has just arrived in Africa. One can only surmise that Luhmann’s analyses in terms of inclusion and exclusion, which replace analyses in terms of social classes, will find sad confirmation.

Luhmann’s conception of social systems as paradoxical, contingent and in continuous transformation would have probably led him to speculate that the crisis would not come to pass leaving the systems unchanged, i.e. he would have been sceptical of a return to normality.

With this short essay we invite others to seize Luhmann's heritage, enrich and adapt it to a society that Luhmann conceived as permanent evolution, renewing itself and changing with every new communication event taking place all over the world.

References

- [1] A. Saltelli and P.-M. Boulanger, "Technoscience, policy and the new media. Nexus or vortex?," *Futures*, p. 102491, Nov. 2019.
- [2] D. Waltner-Toews *et al.*, "Post-normal pandemics: Why COVID-19 requires a new approach to science," *STEPS Centre Blog*, 2020. [Online]. Available: <https://steps-centre.org/blog/postnormal-pandemics-why-covid-19-requires-a-new-approach-to-science/>.
- [3] D. A. Scheufele, "Science communication as political communication.," *Proc. Natl. Acad. Sci. U. S. A.*, vol. 111 Suppl, no. Supplement 4, pp. 13585–92, Sep. 2014.
- [4] P. Mirowski, *Science-Mart, Privatizing American Science*. Harvard University Press, 2011.
- [5] R. A. Pielke, Jr, *The Honest Broker*. Cambridge University Press, 2007.
- [6] H. G. Moeller, *Luhmann explained*. Open Court Publishing Company, 2006.
- [7] N. Luhmann, *Social System*. Stanford University Press, 1995.
- [8] J. Lanier, *Who owns the future?* Penguin Books, 2006.
- [9] S. Zuboff, *The age of surveillance capitalism : the fight for a human future at the new frontier of power*. PublicAffairs, 2019.
- [10] G. Stevenson, "Following the coronavirus money trail openDemocracy," *openDemocracy*, Mar-2020.
- [11] SAPSN, "COVID-19 pandemic: Statement by the Southern African People's Solidarity Network," 2020. [Online]. Available: <https://www.cadtm.org/COVID-19-pandemic-Statement-by-the-Southern-African-People-s-Solidarity-Network>. [Accessed: 20-Apr-2020].
- [12] J. R. Ravetz, "Postnormal Science and the maturing of the structural contradictions of modern European science," *Futures*, vol. 43, no. 2, pp. 142–148, Mar. 2011.
- [13] A. Stirling, "Modernity Without its Clothes: the pandemic crisis shines a light on futilities of control," *STEPS Centre*, 2020. [Online]. Available: <https://steps-centre.org/blog/modernity-without-its-clothes-the-pandemic-crisis-shines-a-light-on>

- futilities-of-control/. [Accessed: 17-Apr-2020].
- [14] A. Saltelli, "Ethics of quantification or quantification of ethics?," *Futures*, vol. 116, 2020.
- [15] L. Daston, "Ground-Zero Empiricism," *Critical Inquiry*, Apr-2020.
- [16] M. Foucault *et al.*, "Coronavirus and philosophers," *European Journal of Psychoanalysis*, 2020. [Online]. Available: <https://www.journal-psychoanalysis.eu/coronavirus-and-philosophers/>. [Accessed: 15-Apr-2020].
- [17] N. Luhmann, *Theory of society. Volume 2*. Stanford University Press, 2013.
- [18] C. O'Neil, *Weapons of math destruction : how big data increases inequality and threatens democracy*. Random House Publishing Group, 2016.
- [19] A. Bastani, *Fully Automated Luxury Capitalism. A manifesto*. New York: Verso, 2019.
- [20] A. Supiot, *Governance by Numbers: The Making of a Legal Model of Allegiance*. Oxford University Press, 2007.
- [21] N. Klein, *The Shock Doctrine: The Rise of Disaster Capitalism*. Knopf Canada, 2007.
- [22] J. Mostafa, "The Revolution Will Not Be Automated," *Sydney Review of Books*, Jul-2019.
- [23] "'Coronavirus Capitalism': Naomi Klein's Case for Transformative Change Amid Coronavirus Pandemic," *Democracy Now!*, 2020. [Online]. Available: https://www.democracynow.org/2020/3/19/naomi_klein_coronavirus_capitalism. [Accessed: 20-Apr-2020].
- [24] N. Luhmann, *Organization and decision*. Cambridge University Press, 2018.
- [25] N. Luhmann, *Theory of Society. Volume 1*. Stanford University Press, 1997.
- [26] D. Baecker, "Niklas Luhmann in the Society of the Computer," *Cybern. Hum. Knowing*, vol. 13, pp. 25–40, Sep. 2006.