



Functional differentiation of law in pandemic times: When health becomes law

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Abstract

Between 2020 and 2023, a period of time assailed by the COVID-19 pandemic, society – as a worldwide social system – experienced a novel kind of communication. The tendency for this communication to exponentially expand is due to the global numbers of people dead, dying or infected. Pandemic communication has arisen in the present to perpetuate itself in all ambiances for every social system around the globe. The health system, in turn, basing itself on the health/disease code, has reacted according to its own logic in the coordination of the actions of doctors. However, the true/false nature of communication arising from questions related to COVID-19 has taken a long time to be tested by the science system. Vaccines and possible treatments for the disease have created issues for political, economic, moral, religious and media matters. The continually expanding trend in pandemic communication has proven that it can hinder the functional differentiation of social systems. Legal communication has not been able to avoid all of the controversy. In the specific case of Law, the problem entails both the judicialization of health and the reverse (where Health becomes Law). Based on the Social Systems Theory Applied to Law, the paper argues that the maintenance of the functional differentiation of the Law system becomes necessary so as for Health not to become Law (and vice versa).

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Key words

Functional differentiation; COVID-19; health; law; vaccines

Resumen

Entre 2020 y 2022, como consecuencia de la pandemia de COVID-19, el sistema social global experimentó una comunicación cuya tendencia a expandirse se hizo permanente debido al número de muertes y contagios en todo el mundo por la citada enfermedad. La comunicación pandémica se hizo permanente y presente en el entorno de todos los sistemas sociales. El sistema de salud reaccionó de acuerdo con su propia lógica, tratando de orientar las acciones de los médicos en función del código salud/enfermedad. Sin embargo, el tipo de comunicación que proviene de los temas sobre la COVID-19 no ha sido probado por el sistema científico como verdadero/falso. Las vacunas y los posibles tratamientos de la enfermedad se han convertido en comunicaciones políticas, económicas, morales, religiosas, mediáticas e incluso jurídicas. En este sentido, existe una tendencia continua a la expansión de las comunicaciones pandémicas, impidiendo la diferenciación funcional de los sistemas sociales. En el caso específico del derecho, el problema lleva tanto a la judicialización de la salud como a la inversa. Basándose en la Teoría de los Sistemas Sociales Aplicada al Derecho, el artículo sostiene que es necesario mantener la diferenciación funcional del sistema jurídico para que la salud no se convierta en derecho y viceversa.

Palabras clave

Diferenciación funcional; COVID-19; salud; derecho; vacunas

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1. Introduction

Pandemics are recurring and recursive by nature. Why are they recurring and recursive? The undeniable reason for recurring resides in the very nature of pandemics, for their repeated occurrence in the global social system. Just to list a few, there has been the AIDS pandemic, Black Death pandemic, Ebola pandemic, Spanish Flu, all recursive because one establishes knowledge from the recursive networks of their respective operations. In the case of COVID-19, since it was novel, first observations were based on perspectives surrounding previous pandemics. The hypothesis for a vaccine being the most viable possibility for containing pandemics is a recursive operation from the health system itself.

Even in a high-tech society, their foreseeability is feeble. Additionally, there is the highly concrete fact that they are bound to come back again. Characteristic of pandemics is a movement of expansion followed by one of contraction, hence existing as recurring phenomena. Even though they are not so monitorable, they continue to be present, as can be verified by the present relevance of COVID-19 in the global social system.

Accordingly, as will be argued, from the point of view of the juridical system, pandemics also direct themselves towards a temporal control of the future. As long as they are present, there also exists the impossibility of beginning the future (Luhmann 1976): as long as normative expectations remain in a preterit space, the danger of dedifferentiation becomes concrete. The moment of urgency has a way of hurling the future backwards.

The recursive character of pandemics also demonstrates its capacity for self-reproduction. The affirmation that the Spanish Flu virus is still able to generate other pandemics (Swine Flu) corroborates with Stichweh's thesis (2022), for whom it is necessary for the global social system to adapt itself in order to possess an immunization capacity for pandemics. It becomes necessary to know what is not known (Esposito 2020, p. 4) for society to be successful in pursuing its communicative distinctions. Above all, the units of differences for each social system cannot be affected by the recursiveness of pandemics.

The pandemic, while presenting itself as an irritation for the subsystem of health, will not cease to be. Therefore, it constitutes a probable future that corresponds to social evolution based on ideas of variation, selection and stabilization. The variation of a virus is a selection that seeks re-stabilization. Hence its recursive and recurring character. In this sense, according to Azevêdo (2020, pp. 17-18):

The first lesson we can infer is the following: to deal with the increased complexity provoked by the pandemic, the social system and all of its subsystems – among them, health and the economy – will have to increase their own complexities to have the capacity to reduce the complexity provoked by the novel coronavirus pandemic. And the second lesson? It reveals that once social subsystems have had the capacity to reduce the complexity provoked by the pandemic, this circumstance will provoke increased complexity in the social environment. This implies that new social variations (not necessarily new pandemics), ever more complex, will be able to introduce themselves from this point on. A roundabout way to compare, though worthwhile as an analogy for explanatory purposes, would lead one to say that for each new antibiotic there is always the possibility of a new super bacteria.

The juridical system should therefore preserve its functional differentiation. For it to possess forceful recursiveness, it should not be fastened in the anchorage of another system, even if such communication originates in Science (Schwartz and Costa 2020),¹ whose contributions act as a base for doctors to act in the health system, including during the stages of a pandemic.

The maintenance of normative expectations reaches a high level of complexity when it confronts a pandemic for one very simple reason: the urgent calling of “normality” takes away the possibility of a future time, since one does not know if it will be possible. Juridical uncertainty is thereby (re)doubled by the absence of certainty in the social system: for example, the question of whether or not an effective vaccine exists. If it does exist, how and in what way should it be dispensed? What should the criteria for dispensing be? In the case that vaccines do not exist, what decisions should be taken? And finally, what ought to be the function of Law in a pandemic context?

The article confronts such questions from a premise that is essential in Luhmann’s theory of social systems: as much as a judicialization of health becomes a communication for colonizing the health system (Finco and Martini 2015), the process in reverse, a “sanitization” of Law, also places the juridical system – and the ways it distinguishes itself from other social systems – in danger. In such a way, health cannot become Law and vice-versa.

There are various reasons why the Luhmannian theoretical framework has been used for the present analysis. Specifically, there are three essential elements, lying in the concepts of communication, functional differentiation and self-immunization. In these three aspects of the theory, one can find quite useful elements for the answers sought after. The article is thus constructed, inside this logic.

Furthermore, it applies the concept of communication utilized by Luhmann (2006). Communication is a way of processing meaning (self-referencing structure). It is the *medium* of social systems. Society is only composed by communication and selecting its own complexity is done at three distinct selective levels: selection of information (what one will communicate), selection of utterance (how communication will occur) and selection of understanding – or misunderstanding – of utterance or of information.

It is for this reason that the first observation elaborated in this work resides in the pandemic as a communicative hyper-complexity: that is to say, besides the pandemic itself, there is a pandemic communication (Espinoza de los Monteros 2021) that possesses a latent specificness: urgency. From that point on, through a second stage, one approaches the way in which this pandemic communication possesses the tendency to block the communication of other systems (Stichweh 2022) to therefore, through a third and fourth movement, argue that the inclusion/exclusion of vaccines generated problems for differentiation in the global social system, in such a way that it is necessary to maintain the functional differentiation of Law so that the juridical system does not fall ill.

¹ See True/False (Luhmann 1996).

2. Is there such a thing as COVID-19 Pandemic Communication?

From the moment – perhaps even before – when there was the declaration of the global pandemic state of emergency, on the 11th of March 2020, on the part of the World Health Organization (WHO 2020), COVID-19 became a communication present in all social systems of world society.

There was, and there still is, communication produced and reprocessed by all social systems. Three of them are of the most interest for the present article. On the one hand, Science has put itself into gear to communicate truths or false claims with respect to the pandemic; the health system, in turn, setting out from scientific contributions, has sought to proceed through the Illness/Health duality; and, finally, Law, based as much in contributions from science as from Health, has absorbed this irritation from its specific code (Recht/Unrecht).

However, Cadenas (2020, p. 12) correctly recalls that the pandemic is present in the structure and memory of world society. The memory, for example, of a highly lethal Spanish flu was (re)lived and, in a latent form, a reminder of a pandemic that is still present – AIDS – reappeared with the potential to significantly alter the operations that lay the foundations for functional systems.

In light of this, the capacity for communication, with regard to that communication which includes historic, alongside new, pandemic conditions, to provoke threats to the functional differentiation of the global social system, appears as a past to become present and conditions the future. Illnesses do not recognize borders or limits, since bodies are their own means of propagation for their self-reproduction. Standards for taking action (medical protocols, for example) can be improvised, where science's timing is accelerated, while Law needs to maintain normative expectations that become highly variable because of the urgency of pandemic communication.

As a result, the uncertainty of communication originating in COVID-19 can be observed as a communication surrounding the pandemic. However, also observable is a type of pandemic communication that comes to threaten specific characteristics of functionally differentiated systems of global society. The search for an answer for unknown questions stemming from known structures leads to the certainty of the uncertain as an omnipresent alternative for decision making.

Nonetheless, as has already been referred to, pandemics are recurring and recursive. It is because of this that pandemics are also present in the memory of the world's social system. In this sense, observed in this way, they are also communication. Does this communication that is found – as long as it is communication – provoke changes in other systems or does it bring with it a specificness that demands the already mentioned immunizing capacity of the global social system?

2.1. *Pandemics as Communication*

Conceptually, for the World Health Organization (Health Direct 2022), a pandemic occurs when an illness disseminates worldwide. The term comes to be utilized when an epidemic, a local outbreak within a region, is capable of spreading itself to all countries across the world by way of sustained contagion from person to person.

To observe the pandemic as communication implies its existence as a medium of social systems: (a) communication related to the pandemic to influence society's differentiated systems and (b) the tendency to (re)duplicate communication about the pandemic, converting into pandemic communication, even to be considered viral in the way its presence is felt throughout society.

Technically, as a recognized communication channel that is capable of producing answers and actions on a global scale, it is in the hands of the World Health Organization to recognize the existence of the pandemic. In other words, the pandemic will only occur in the form of communication by way of a health system, in the message of a specific structure: when the WHO recognizes, under certain criteria and based on the Health/Illness distinction (Schwartz 2004), its existence.

At the same time, further still, that it recognizes the existence of the pandemic – and also by the mentioned characteristic of worldwide contagiousness – one finds oneself before a communication that will permeate all social systems across world society, setting out from its presuppositions: there is lack of control with regard to a determined illness that occurs around the globe and is transmitted from person to person. The information is clear. All can be infected, and care is needed for the pandemic to regress, at least, to the category of epidemic.

The concept of communication is central in order to understand Luhmann's theory of social systems, for it is this very communication that distinguishes society from psychic systems, biological systems and machines (Luhmann 1984). In fact, society is communication and only communication (Amado 1993, p. 106).

The various criticisms suffered by Luhmann with respect to this conceptualization, especially that of the decentering of the subject in social relationships, have their origins in a tradition of analysis appropriate for societies in which the character of complexity is not as present as in current societies (Moeller 2011). Luhmann did not kill the individual (Almeida 2022). He relocated the individual as a psychic system that comes to be in the absence of interaction between psychic systems, in a place where there is no communication.

It is from Guibentif (2012) that we receive the reminder that the interaction between social systems and psychic systems (alter/ego) requires minimally attentive consciences for the existence of communication. Meaning here is a "product of the co-evolution between consciences and communications" (Luhmann 1990, pp. 53-58). Luhmannian theoretical structure, in turn, steers itself towards structural couplings between consciences and communications (language, notion of the person, among others), to enable, as referred to by Guibentif (2012, p. 182), that all social systems receive influences from psychic systems in their respective differentiated processes.

There is a relationship of interdependence. Individuals do not exist – and will not go on existing – without social systems. The reverse is also true. Social systems do not emerge without people (Luhmann 1984, pp. 45-60). It is for this motive that communication is apart from conscience. Perception is a characteristic belonging to psychic systems and is a non-externalized event, invisible to communication. To perceive that one is sick, therefore, is something different from calling in ill. Therefore, only through specific selections will the content of perception be perceived as communication.

As communication cannot be observed as a (re)duplication of utterances in another conscience, it is highly improbable (Luhmann 2006), since for alter to understand the ego and have a message successfully arrive at the receiver is a task containing a high degree of uncertainty. Communication, therefore, is not confined to transmitting a determined content. Its central point resides in how social systems convey communication from one point to another, in an autonomous way, in relation to the conscience.

The pandemic, therefore, in the form of communication, permits social systems such as Science, Law and Health, to cognitively assimilate the perception of psychic systems with regard to illness. The stage of cognitive opening of social systems – specific selections – makes it indispensable to understand the pandemic as communication. No other way exists for social systems to learn about the pandemic and, in this way, react in a way to reduce the complexity of the pandemic to a surrounding communication for all subsystems.

Illness, once it exists – that is to say, becomes communicated – also communicates. On the systemic level, illness communicates a variation in the health system: as a contraposition, the necessity for health. The negative pole of the health system, illness, is central in order for us to observe the communicative effect of a pandemic. The responses of social systems to these communications, even though they are functionally differentiated, have the objective of reducing, by way of their operations, a communication capable of interrupting or blocking other communications. The illness can be the illness of the society; the pandemic being, emphatically, a social pandemic communication.

In the line of thought of the authors Rodrigues & Costa, the spread of the communication of COVID-19 is a type of disturbance that embarks upon the functioning of almost all social systems, and this happens at the global level. As the authors say: “Luhmann, meanwhile, in his social systemic theory, warns that when considering a specific system, the rest of the systems that constitute its surrounding also need to be observed” (Rodrigues and Costa 2021, p. 314).

It is not by chance that communication about the pandemic is also pandemic. It is capable of reproducing itself in a sustained way and on a global scale. It possesses, as does a virus, a rapid, contagious effect, affecting the functioning of other social systems in such a way that, at some moment, the massive communication of social systems becomes pandemic in itself, approaching the pandemic in an uncoordinated way. Religion, Morals, Law, Science, Health, Economy, and, eventually, all social systems, without exception, busied themselves with the pandemic communication of COVID-19.

To give an example, religion attempted to absorb communication with respect to the pandemic based on its own differentiation, seeking to energize human immanence (illnesses are “punishments” or inevitable) with a sense of transcendence (there being salvation). In the same way, morality, affirming its presence as a functionally differentiated communication within society - even though it does not institute itself as a partial system of society - became activated when there arose the matter of valuing or belittling individuals in the act of privileging one group of people over others for access to the first vaccines, even involving a small number of countries in relation to others for this access.

The economy observed the production of vaccines and medical equipment on a large scale as an opportunity for the continuous reproduction of payments, enlarging its expanses of communication. Science sought to delineate what was false or true in COVID-19's pandemic communication. Health, in turn, basing itself on such studies, differentiated health from illness by diagnostic means.

Law did not escape the communication brought under focus, with a decisive function between the unity of that which is Law and that which cannot be understood as such. To (re)process communication with respect to COVID-19 could not be avoided in returning juridical social communication on the illness to the social system.

For this reason, Cadenas upholds that the pandemic consists of a system. Even though one cannot agree with his remark, the fact is that his thought with regard to how pandemic communication of the pandemic is entwined with the structure of the society is correct:

Entwined in the structure of our society, this phenomenon has significantly altered the fundamental operations of functional systems like politics, law, economy, science, mass media or art, and similarly social systems on different levels: organizations, intermediate systems and interactions. (Cadenas 2000, p. 12)

The dangers of dedifferentiation become clear. The pandemic present has become a communication that has set back the future amidst the impossibility of reduced complexity at the present time. The unprecedented nature of COVID-19 – nothing like it had existed before its onset – has caused such a hiatus. The communicational crossings in relation to it, without the preservation of functional differentiation, generated – and still generate – other communications without the due content of reflexivity. Uncertainty harmed the communication of the pandemic and, as a hyper communication, the tendency to superimpose over social systems remained so latent that it is no exaggeration to say that COVID-19 communication influenced all social systems.

2.2. Are there Specifications for COVID-19 Communication?

COVID-19 has presented itself as a pandemic communication with peculiarities that distinguish it from the world pandemics that continue (the case of AIDS, for example) and from the predecessors. This was also the case with its recursiveness, found in new types of pathogens, some more dangerous than others, that the virus was naturally able to achieve in its own self-reproduction.

Furthermore, the specific functioning of COVID-19 would not lie in its recursive and recurring character. All pandemics behave this way, since these characteristics are inherent to pandemics. Equally true is that, as a rule, pandemics are not foreseeable. When there are possibilities for predictable behavior in pathogens, the system of science will typically perform to offer a true or false verdict to the health system so that new illnesses, as potential threats, do not reach the pandemic stage.

Historically, the installation of a crisis in the social systems of global society is not exclusive to the advent of COVID-19. A crisis like the Spanish flu, preceded by the First World War, affected society in a direct way. It was actually able to spread to countries as distant as Brazil, even in consideration of the reduced transit between countries during that period.

Crisis in Luhmann's conception of the theory of social systems can be determined as a significant alteration of a particular system's functions. Crisis can also mean, on the other hand, a cyclic and normal behavior. Crises are able to have recursive and recurring features, also characteristic of pandemics.

Mascareño (2018) uses the *critical transitions* concept to defend that these moments can be observed as regular episodes of systems' operativity. In this sense, pandemics have occurred and are bound to occur again. In the same fashion as the previous ones, new pandemics will test the way in which social systems structure themselves to abide by their functions.

A critical transition, therefore, moves at two moments. On the one hand, it places the function of social systems at risk. When a pandemic is on the rise any social system is prone to stress. The danger of dedifferentiation impels us to impede the assimilation of pandemic communication by social systems each in their own way.

From another angle, a critical transition grants the capacity of internal variability for such systems to strengthen and absorb the external threat in a way that their function is not lost. Accordingly, there is a way to project towards the future and, in the event of new pandemics based on characteristics that are difficult to ascertain, the global social system would be better immunized and have the possibility of reacting better to new disturbances.

But the specificness of COVID-19's communication sets out from a position ascertained by Cadenas (2020) for whom the pandemic infected all systems that observe, that is to say, social systems. Infected with what? With a future that cannot be tested and for which there are few conceptual supports.

For previous pandemics (Spanish Flu), and for somewhat aged ones that still survive (AIDS), the question remains the same. One beholds a future that is impossible to foresee, alongside scarce conceptual support to aid in decision making. Nevertheless, there is a clear difference in communication upon observing those pandemics when compared to the context of present day COVID-19, in fact reflecting societal development. The Spanish Flu was present in a less complex society, whereas AIDS was already part of a global society. With respect to the onset of AIDS in the 1980s, nonetheless, the speed of communication and the development of high technology in sanitation (Schwartz 2004) were still relatively backwards in relation to what existed when COVID-19 arrived.

COVID-19 demanded urgency as well because of its lethality and high transmission rate. Yet the greatest change it brought was its capacity to become an omnipresent communication for all of society's subsystems. In this way, it demanded – and continues to demand – more swift responses from each social system. The communicative potential of COVID-19 carries, to a large degree, the possibility of blocking the communication of other systems in such a way that, without exceptions, all systems had to adjust to this new communication.

To give an immediate example, the Economic system reacted and adapted itself to the new reality, seeking alternatives for *lockdown*. The Religious system treated the disease's consequences in an immanent or transcendental way. Science generously produced research without the usual time allowed for testing its hypotheses. Health counted on

the performance of its doctors based on the scientific knowledge of our times. Law reacted with the maintenance of consolidated normative expectations for moments of crisis. It sought to naturalize an exceptional period so that a congruent generalization could occur around an already existing positivity (of juridical norms).

Nonetheless, in view of the demands for answers from Science and Health, COVID-19 proved itself to be very different from almost all other pandemics, except for AIDS. Even so, the latter pandemic did not arouse a massive reaction in communication, nor did it cause other systems to overlap Science or Health. In the case of the Spanish Flu, Economy and then Religion became most burdened to deliver responses, since advances in science and health were not advanced enough to cure problems caused by the major disease of that époque.

The specificity of COVID-19 communication therefore resides in its great potential to block communication in a significant segment of the universe of systems: in most countries, Science (and Health) was the most demanded system to produce answers for the problem being confronted. The system of Health also came under fire. For this reason, other courses of treatment were utilized until the vaccine, in record time, was developed. Law resolved itself to maintain normative expectations with respect to an illness and its treatment, both of which were until that point in time unknown.

In other words, the global social system came to perceive COVID-19 as a threat to itself – this world system as a phenomenon of unceasing, continuous and interdependent self-reproduction of communication between its systems, signifying the indestructible social system that will not disintegrate. To avoid COVID-19 infecting (to use the expression already cited by Cadenas, 2020) the observation of the rest of the systems, it is necessary to heed the alert of Stichweh (2022) with respect to the integral maintenance of the functions of each system. The integrated system is indispensable for the observation of *critical transition* (Mascareño 2018) or blockage of communicative systems that would even affect Law.

3. Is COVID-19 Pandemic Communication overlapping Communication from other Systems?

To understand that social systems are autonomous and independent among themselves constitutes a central point in Luhmann's theory (Aguirre 2012, pp. 87-126). Systems preserve their autonomy as long as the function of each system is reserved exclusively to itself. The cognitive opening of a system, the way in which it comprehends or assimilates external communications, depends on the preservation of its operational closure.

When faced with a pandemic like COVID-19, the tendency is to produce communication that expands across all social systems. Along this line of reasoning, the systems look to absorb such communications from the way they have become specialized in a relationship with the complexity of the global social system. The objective of this operation is to diminish risks in decisions originating in the uncertainty of the incalculable (pandemic). Said in another way, pandemic communication cannot become a communicative pandemic.

In this way, social systems establish a basic distinction between themselves and other systems. Pandemic communication consists of systems' environments, each one of them organizing itself to give possible responses by way of its structures. The capacity to learn from each of them happens through a specific code that unifies the distinction between its passive and negative poles. That unit of difference is what permits, by way of internal programming, absorbing and (re)processing of external communication.

In the end, an interruption or eventual blockage of this intricate connection between systems and environment provokes a systemic problem. In the absence of functional differentiation, one of the consequences will be that of contemporary society's not continuing to produce difference (Rocha 1998) and, consequently, all communication turning into pandemic communication in the face of a communicative pandemic that disfigures the functions of social systems.

In the case of COVID-19, as has already been discussed, there is still a specific communication linked to its high blocking potential for certain systems. In this article, as already stated, the relationship between the systems of Science, Health and Law are the point of this analysis and it is necessary to verify whether or not COVID-19's communication has affected the communication of these three systems.

3.1. COVID-19 Communication and the Health/Illness Code

Before the correlations of systemic interconnections (Harste and Febbrajo 2013) existing among society's subsystems, the functional differentiation of the Health system is based on a code that belongs to it alone: Health/Illness (Vial 2015). The performance of doctors, therefore, is related to the unit of difference between that which is tangible, the illness, and that which is only an image-horizon (Scliar 2005), health.

One cannot help but noting that Luhmann did not use the term "health system" but the expression "medicine system" (Martini 2015). Nevertheless, here health becomes a system through a basic understanding that decisions related to health/illness are not exclusive to doctors. The very structures of the health system demonstrate that such an observation happens due to an infinity of other professionals – nurses, psychologists, among others. It is not by chance that the World Health Organization presents health as the state of complete well-being, encompassing physical, mental and social aspects. A conception of health system acquired by society in an evolutionary process does not place the possibilities for the use of the Health/Illness code solely in the camp of medicine.

Nonetheless, one sees that the code remains the same and this brings us to a very important question. Its negative pole, Illness, is what confers the possibility of the system's evolution, while health alone, the passive pole, serves as a necessary distinctive parameter for the illness to be treated (Rocha *et al.* 2019, p. 167).

Inside the health system, recognition standards (programming) exist in order to define if a particular communication originating from outside the system can be comprehended as illness. Once it has been understood as such, all of the internal structures will be oriented for a return to health to occur and, occurring in this way, communication returning to the outside will determine, for other systems, what makes illness recognizable.

The same communication outside the system moves illness beyond its aspects in the individual body. This invites Foucault's perspective of illness in relation to the body (2022), acquiring a *biopolitical* character. As much as "pandemic" entails communication with respect to an illness that occurs individually, the repercussions go beyond perceptions about illness where a particular individual is concerned.

Communication on a particular pandemic that becomes pandemic communication, as is the case of COVID-19, signals an overloading of the health system. This is mainly because of the rush for provisions to treat the illness. In the absence of the necessary provisions and in the absence of sanitation, the other systems will not know how to act and, acting rashly, will make decisions based on their own codes, causing, among other things, a politicization of the pandemic.

Treatment (Schwartz 2004), therefore, is the health system's response for communication originating at the outside of it, as long as it is observed as illness. The offering of treatment is not the function of the political system, for if it were to act in this direction, it would happen through the distinct Government/Opposition unit and without scientific criteria. In the same way, treatment in the realm of the economic system is a question of payment and of having credit for this. It is not a task for science to spell out the specific treatment for COVID-19, but rather to sort out the truth from the lies with respect to treatment measures. To add another example, where Law is concerned, it is observed from the system's structures to the end of achieving the maintenance of normative expectations in the area of sanitation.

In light of this, "health" as a complement is used in its own particular and sincere way in many countries (universally wherever romance languages are spoken) on festive occasions, where health is desired for all those who toast at that moment. This can only signify, in distinctive style, a treatment for illness as a cultural variant that originates on the safe side of health. In other words, the health of the health of a society, in pandemic times, is a self-reproduced health from societal roots and its correlation with what is exterior to it. Functional differentiation.

3.2. COVID-19 Communication and the True/False Code

As has already been exposed, it is for the Science System to account for itself in the direction of other systems that differentiate in their own terms what is true and what is false in their operations. An example of this is a medical investigation for a judicial process (Rocha and Simioni 2019). The health system, based on scientific procedures, provides the Law system with elements for a decision based on the Recht/Unrecht mechanism. Setting out from its operative closure, Science manages to define, by way of its code and programming (scientific method), how to learn from the exterior (cognitive opening) as a way to, at times somewhat temporarily, distinguish the true from the false.

What is truth or falsity in the treatment of COVID-19 therefore depends on a procedure coined in the Science system and that conforms with procedures originating in the Health system. It was precisely in this trajectory undertaken by knowledge, faced with scientific uncertainty, not being able to grasp an understanding about basic characteristics in the illness, that truth or falsity surrounding the pandemic was decided upon by other systems, obviously using their own codes and their specific programming.

It is also a fact that the rendering of truth or falsity needed to be accelerated in the wake of pandemic communication (Ribeiro 2020). The structures of the science system were tested to the extreme. Academic articles published in specialized journals came to be known to all by less rigid criteria so that there could be a distribution to other systems in the quickest form available. This meant a loss of consistency.

At the same time, this urgency for an immediate future promoted internal reactions in the systems of science. If, on the one hand, scientific criteria based on their specific True/False code were to be accelerated, on the other hand what cannot be denied is that the production of vaccines was indeed achieved, some with new techniques, safely and on a grand scale. Dichotomous progression in thinking was responsible for the shift in orientation of pandemic communication to a question of vaccine/no vaccine. As expressed by Rodrigues and Costa (2021, p. 323):

The pandemic of COVID-19, in the same way, caused a profound disturbance in the system of science, in the sense of how this system would provide a response for alleviating the harsh environment (coronavirus) detrimental to structural coupling of various systems and subsystems in society. Such a disturbance took place in the direction of pressure for the production of a vaccine or truly effective drugs, since, given the velocity of COVID-19 dissemination, what the governments of nations made available as 2020 progressed as an effective “response” to contain the advance of the virus could only be social distancing.

In a certain way, communication on the pandemic became viral. It was and has continued to be present in the environment of all systems. The (re)processing of the system of science with respect to the pandemic (vaccine/ no vaccine) has also made itself viral. The question of being vaccinated or not vaccinated has become urgent. There was great pressure for all society’s subsystems to be based on the presumption of being or not being vaccinated. In a certain way, the expansion of pandemic communication is also tied to the vaccination/no-vaccination code.

Nevertheless, it so happens that even in pandemic situations, pandemic communication cannot be confused with communication *about* the pandemic. Insofar as communication turns itself into a potential blocker for communication for other systems, its viral character contains a rather large degree of danger for the global social system. The indispensable immunization of people leads to a necessary self-immunization of the social system, a capacity to know how to manage subsequent pandemics in such a way that subsystems themselves react, in an adaptive form, to coming communication.

One also cannot, in consideration of this, let autonomous production of knowledge pursued by the science system be interrupted, since it is such a characteristic that is the fundament to produce truths and falsities. According to Luhmann: “... elements of knowledge select what they can know based on what they already know” (1996, p. 391). Paradoxically, therefore, communication on the pandemic is necessary knowledge for the development of new knowledge with respect to the current pandemic and future ones.

The introduction of new elements – as opposed to what is bygone – to scientific study is treated as a problem of foundation and attribution summed up by two questions: who proposes and why (Luhmann 1996, p. 215)? In the distinctive internal relationships of the science system, and in the relationship this network has with its surroundings, new

knowledge, as is the case for COVID-19 vaccines, assumes future temporal constructions based on past knowledge. After all, vaccines, even the new ones, have utilized, to maintain their trustworthiness, techniques and scientific methodology that was previously produced.

For this reason, the preservation of the autonomy of the science system by way of its cognitive opening (filtering of communication by its code and specific programming) and its operative closure (citations, publications, *blind review*, among others) is linked to functional differentiation. It is little wonder that the quest for new discovery is what drove forth scientific creativity for the production of COVID-19 vaccines. Any other approach to logic would lead to, among other qualms, the politicization of science. The scientific recursive cycle would have problems in giving answers based on the science/truth code before its blockage through the Government/Opposition code.

3.3. COVID-19 and the *Recht/Unrecht* Code

The judicialization of health constitutes a relevant subject, especially in Brazil (Lima 2015). The problem, evidently, in this point, is not the fact of health being observed in the operative closure of the system of Law, thereby being subject to decisions that seek to maintain normative expectations – the function of the juridical system – through the *Recht/Unrecht* code and its related programming (laws, jurisprudence, decisions, among other things).

In its environment, the system of Law also possesses communication on the pandemic. Pandemic communication on the COVID-19 pandemic was – and still is – a challenge so that Law can maintain normative expectations from the system of global society on a level where it is possible to stabilize uncertainties originating in a scenario where connections with the health system and the science system have become still more latent.

The interdependences and mutual interferences between health and Law, for example, are known and quite well studied (Martini 2015). In a rather direct way, from when health was understood as one of society's rights through various Constitutions existing at the world level (Schwartz 2001), the system of Law was provoked to observe health from its own positioning and, on top of this, from its own state of health. Also in this aspect, the co-evolution between Law and Health permeates discussions on both the simple and high levels of technology, becoming present in central questions on contemporary society.

This is the case for COVID-19. How should Law as a system react through pandemic communication on a pandemic with such a high rate of contagion (viral and communicational)? In fact, the health of Law, in this case, is the maintenance of functional differentiation.

What one can observe is that functionally differentiated systems presuppose interdependence and interferences. They are independent and dependent among themselves. Functional differentiation thereby increases the relationship of dependence and reciprocal independence between various subsystems in society. As referred to by Luhmann (1996, p. 215)

... it is obvious that research costs money; and it is obvious that legal barriers have a certain obligation to support it; and it is obvious that there can also be consequences – if we think of the atomic bomb – that politically cannot be overlooked.

One cannot deny, therefore, that for the system of Law, in the case of the expressive and strong communication originating in the health system – since it is there that the state of the pandemic is defined – there will be pressures to the extreme. It is natural for interference to come, inevitable; and Law will need to respond to the outstanding issues of the pandemic. However, in such cases, its reaction will not be able to be based on the Health/Illness code. There have been previous pandemics and there are current ones – AIDS – where the system of Law has been influenced by the Health system.

The capacity for the assimilation and adaptation of the function of maintenance of normative expectations, even in pandemics, resides in the tenuous line where Law needs to observe Health and self-observe to establish the uncertainties and risks inherent to this connection. The treatment of illness is also the maintenance of functional differentiation in Law.

As has already been mentioned, Science is the system that lends itself to communication about what is false and what is true about the pandemic (even in the direction of Law). The mechanisms of interconnection between Health, Law and Science are the way for society's global system to manage to adapt itself more quickly to future pandemics and future pandemic communication about those new pandemics.

4. When health becomes law: The disease of law and the vaccinated/non-vaccinated code

The effects of COVID-19 are not yet known in a consistent way. Those linked to people's health, to evidence, make themselves present and have repercussions, as has already been seen, in the global social system. The present, as the distinct point between the past and the future, establishes the construction of a differentiated future in relation to what came before. Insofar as this relationship is broken, a discontinuous future (inherent in the denial of functional differentiation) is a possibility that has a high possibility.

When we refer to the effects of pandemic communication from the COVID-19 pandemic as being still unknown, we really wish to raise the question: will the adaptation of society's subsystems for the pandemic become the future or will it stay in the past? In what way, therefore, will the interference of communication about COVID-19 remain as pandemic by nature; or will it remain transformed into another example of so much existing communication out there in the environment of society's systems, including Law and Science?

Stichweh (2022) relates that, from the pandemic, the health system presents itself as society's totality. The flattening of COVID-19's curve of infection imposed conformity to the whole of society, all orientated towards this function. Because of this, for him, a way for simplifying a society directed towards the flattening of the curve begins to exist, in particular the triad composed by the health system, the political system and the Science system.

Still, one must not forget Law. When Law becomes Health, the situation turns towards "illness" by the Law system. A pathological condition of a system whose differentiation

was placed in danger through the incapacity to perform the necessary operations for the operations of its autonomy. Marcelo Neves names this phenomenon *alopoiesis* (Neves 1992), while Aldo Mascareño transports the idea of dedifferentiation by Niklas Luhmann to another level (Cadenas and Mascareño 2020), applying it, especially, to certain peripheral Latin American countries.

Under this observation by Mascareño, one can affirm that dedifferentiation is the opposite of functional differentiation. It redirects the society to stratification or social segmentation and presents itself as a grave problem because, in an overpopulated and complex society – that is to say, where contagion is a constant – functional dedifferentiation is the best path in the circumstances for surviving danger (COVID-19).

The COVID-19 pandemic has as its characteristic being pandemic, crossing frontiers due to a capacity for very high contagion and bringing with it the possibility – as effectively happened – of causing death on a grand scale. Hence, in such cases, as in the case of the Spanish flu, there are moments of rupture from functional differentiation. This danger related to human survival can occur as a result of a “technical catastrophe, or an environmental catastrophe, or whatever” (Luhmann 2000, p. 203).

In pandemic times, one could easily relate Luhmann’s “whatever” to a health disaster. The COVID-19 pandemic transcends borders and affects the global social system in all of its dimensions (spheres or systems). Therefore, it threatens functional differentiation. It equally affects interactions and organizations. In other words: COVID-19 can come to cause a *functional deficit* (Marcelo Neves 2012, p. 23) in social systems.

On a massive scale, from the moment of the declaration of the health emergency onwards, communication existing in the environment of social systems has been linked to needs for receiving information from Science (what is true and what is false with respect to COVID-19), Health (how to treat the illness) and Law (how to maintain normative expectations in a pandemic context). This systemic interweaving became extremely pronounced, so as to present the danger, or latent threat, of Health transforming itself into Law, since Science took some time to offer, especially at the beginning of the disaster, the necessary responses for delivering communication on distorted facts and authenticity for COVID-19 to the other two systems.

Starting with the system of Science, there was an overcharging of communication in relation to its operations. Its criteria and procedures were placed in danger before the urgent state of affairs the global social system, needing to impede the absence of functional differentiation and, as a consequence of this hiatus, a type of systemic blockage.

All initial information with respect to COVID-19 and the decisions taken with respect to it, *lockdowns*, social distancing, closing down frontiers, sanitary restrictions, and the use of masks, to name some measures, were learnt from other pandemics. In other words, the Science system managed to offer previously acquired knowledge about pandemic administration to others, even considering that its offering of the truth and falsity based on self-observation could be seen as not enough.

It cannot be denied that scientific communication occupied a predominant role in a large part of the viral spreading of pandemic communication on COVID-19. It is not for nothing that scientific articles were published without the previous requirements and

that other systems in society also produced communication with respect to the pandemic, each setting out from their specific area.

Based on other pandemics, the system of Science directed its operative closure to react to COVID-19 in the same way that it reacted previously to similar situations. For pandemics, the search for adequate treatment in order to help doctors to perform effectively (Corsi 2015) may well be in the production of medication. But what medication and what techniques could be employed?

The essential questions for the Science system were related to previous knowledge capable of offering something new, or, as Bora (2012) recollects, the capacity of Science's innovation is the response from Science itself to preserve its autonomy and impede, for example, that the Law system communicates to it what could be considered true or false in terms of COVID-19.

Vaccines and vaccination on a grand scale around the world. The response of Science to communications on the COVID-19 pandemic brought a greater degree of complexity to pandemic communication. There were no vaccines for the illness. The known techniques would take a long time to provide scientific support (falsity/truth) to others. In the meanwhile, the Health system, required for treatment, for orientation, continued on the path of systemic blockage. Communication with respect to vaccines became absolutely viral.

Along the road to the development of new techniques, based on rapidly acquired knowledge and previous testing, all done in record times, the Science system managed to provide safe and effective vaccines, also providing the social system with the awaited information on what is true and what is false in discussions on COVID-19.

Nevertheless, once pandemic communication on vaccines had already reached its level of saturation in the global social system - and vaccine issues had been resolved - one can say that there was a communicative *overdose* on COVID-19 vaccines. They had become the object of every kind of communication: moral, religious, political, economic, educational, among others.

The existence of the vaccine generated more complexity and obvious questions involved with functional differentiation remained latent. Those included in vaccination schemes naturally caused others to be excluded. Vaccination brought with it more signs of inequality. Where there is a lack of vaccines, is certain to be attendance in the direction of populations of central countries.

The fact of being or not being vaccinated quickly became a subcode of the Health system. The question of Health/Illness currently connects itself, even for those who are not ill, to a vaccinated/non-vaccinated disposition. In other words, the performance of doctors is oriented by vaccines or by their absence.

The Vaccinated/Non-Vaccinate code became an important part of the maintenance of functional differentiation, even though it accentuated the fact that countries that could apply it in a more effective way had a regaining of normality more rapidly.

The capacity for this subcode to communicate with other systems via Health/Illness did not go unobserved by law. For example, the entry of people into other countries came to be guided not by the fact of being ill or healthy but by being vaccinated or non-

vaccinated, as found in the example of the tennis star Novak Djokovic and the restrictions of his entry into different countries.

The autonomy of the system of Law rapidly absorbed, as occurs in cases of pandemic communication with respect to pandemics, and came to relate its capacity for assimilation from what could be offered scientifically (the vaccines are the true responses for COVID-19) translated by way of the Health/Illness code, whose evolution leads to the unit of difference between vaccine/non-vaccine.

In this way the system of Law also took into consideration the question of vaccine as an element of sanitary service received via the Health system. And, as much as other systems, it saw itself impelled to maintain normative expectations taking into consideration the question of vaccination. Health norms, rules at work, social distancing, among other procedures, were just some of the questions affected by COVID-19's pandemic communication. And, as pandemic communication, also in the case of law, its superimposing can be the illness of Law.

From this perspective, the vaccinated/non-vaccinated code, typical of the Health system, needs to be self-immunized by society's other subsystems, including Law, since decisions with respect to juridical communication plan themselves based on the idea of *Recht/Unrecht*. Yet, clearly, the combined process of cognitive opening and operative closure takes into consideration the communication on vaccines.

The central point is that neither COVID-19, nor the code generated by it – the vaccinated/non-vaccinated code and its utilization by the Health system, originating from the system of science, with its sizeable adaptation to evolution - can expand in such a way that Law loses its functional differentiation. In other words: Law's cure for communicative overburdening by COVID-19 lies inside its own system.

5. Healing the Law? Maintaining Functional Differentiation

The presumption of functional differentiation as a base for the evolution of society's subsystems is the anchor for observation of the need for a pandemic communication on the COVID-19 pandemic in the following sense: for it not to become dominant over other communication existing in the environment of each social system.

As has already been mentioned, each subsystem of the global social system specializes itself to confront the typical complexity of social evolution. In this sense, social systems are contingent and historical products related to the evolution of society. Therefore, social systems do not possess pre-determined data. They adapt themselves to external influences at the same time as they preserve their autonomy. This is the reason why it was possible to observe the pandemic communication of COVID-19 from the self-observation of each system.

It is fairly clear, furthermore, that a pandemic such as COVID-19 has the power to threaten the functional differentiation of partial systems and, more specifically, the system of Law. These are moments in which codes and conditional programming from each system stay exposed to the extreme in the environment and can, in some cases, be in front of unfavorable conditions to develop their functions.

Stichweh (2011, p. 45) states that the best observation for crises is in observing them from their tendencies and/or their forms. For the author, a functionally differentiated system

possesses some characteristics and one of them is the full preservation of the operations of the system. Any deviation in this sense is considered corruption. Along the same line, when there is a crisis, symbols are inflated or deflated, depending on how they are observed. Influence and confidence directly affect the symbols and, therefore, society's subsystems.

In this sense, an eventual sanitization of Law would possess the same effect of a judicialization of health: an expansion of one system over another. The communication brought by COVID-19, symbolically, is death. Illness presents itself as incurable and health systems exist without the capacity for responding on a large scale under the stress of the pandemic. The vaccine appears as the element capable of minimizing risks for social cohesion. Within the repertoire of pandemic communication from the COVID-19 pandemic there exists enormous symbolic potential.

It is undeniable, therefore, that the influence of communication relative to COVID-19 is of a high degree and, in being this way, Law continues its specific function and also becomes a challenge for the maintenance of the differentiation of other social systems. The maintenance of normative expectations, in moments like those of the pandemic, inflates the role of Law in society. One expects of it something that is beyond its sphere of competence, that is to say, the convergence of communication for an understanding with respect to what is true and what is false about the COVID-19 pandemic. This is the task that marks the Science system.

What is also expected of Law is that choices are made about how to treat illness - in reality, as has already been highlighted, the task delegated to the Health system. Albeit, provisions originating from both systems (Health and Science) are collected by the system of Law, by way of its code and its programs, to communicate to the other systems what is in accordance with, and what discords with, the Law.

Functional differentiation is, therefore, the guarantee in itself of the "cure" of Law for the communicational overdrive of pandemic communication from COVID-19. Even so, Marcelo Neves (2011) points out that this idea is a problem for the peripheral countries. In the case of Brazil, the supremacy of functional differentiation succumbs to structural systemic corruption. This entails the non-inclusion of individuals in each one of the social systems. The prevention of the deficit of functional differentiation will give incentive to the self-reproduction – and the evolution – of a Law more adept in the management of future pandemics.

Luhmann (1996, p. 215) defends functional differentiation by saying that in "a functionally differentiated society one does not catch a glimpse of any possibility of limiting or relativizing the autonomy of encoded operations from their functional systems". Such thought is applied even more to Law in pandemic times. Times in which uncertainty derived from the global social system turns itself into communication on a grand scale and in which risks possess difficulty in their being reduced. As Fabrício Neves defends:

The response to the pandemic will necessarily pass through these three factors of social conditioning... 1) the society organizes itself from differentiated functional systems; 2) world society presents itself as differentiated in the most distinct contexts and; 3) individuals participate differently from distinct social systems. (F. Neves 2020, p. 160)

A pandemic the size of COVID-19 characterizes itself as a phase in which the maintenance of normative expectations is also affected on a global scale. When Law becomes health, health is no longer health; and Law, in turn stops being only Law. They stop producing difference and make social evolution difficult. They turn into something uncertain and generate even more complexity.

Accordingly, one may adopt technical terms originating in the pandemic communication of the COVID-19 pandemic, in order to arrive at what Stichweh (2022) calls the immunization of society for future pandemics. It is not possible to call for a *lockdown* for Law, just as it is not advisable to coordinate its (social) distancing from the rest of society's subsystems.

6. Final Considerations

The way by which Law reacts to external pressures within Niklas Luhmann's Theory of Social Systems is related to the self-immunization of its rationality. It is a question of a model that presupposes the distinction between the system and the environment and that preserves, at the same time, as much its capacity for assimilation as its autonomy.

Even in pandemic times and during a period in which the uncertainty of the undefinable reaches very high levels of complexity, the primacy of functional differentiation is still the reductive mechanism of complexity making it possible for the system of global society to adapt itself – and evolve – relative to the pressures it undergoes.

The pandemic of COVID-19 produces a type of pandemic communication, highly viral and with an unprecedented level of contagion. Setting off from this expansive platform, the systems of Science and Health muddle their way through the center of the harvesting of worldwide communication and become, in an unceasing way, the environment for all other systems. The communicational *overdose* of the pandemic of COVID-19 demonstrated its pandemic nature. The urgency in the search for answers accentuated the dangers of de-differentiation.

One of these dangers is, precisely, the Law, as long as it is a system whose function is that of the maintenance of normative expectations, no longer complying with this task. In the case that Law, for example, bases its operations on the Health/Illness code, the performance of doctors would be contaminated by a juridical observation on a problem of a sanitary nature, which would cause quite a large problem in all the rest of society's systems.

In the same way, when it is for Law to say what is to be observed as True/Falsity in relation to COVID-19, Science would be observing Law not only as a legal limitation in relation to its objects. It would be a juridical rationality applied to Science and the result, the search for innovation, would have real problems in being achieved. Law would not be capable of orientating the system of Science in producing a vaccine for the illness.

The vaccine for COVID-19 encompasses the Science system's greatly adapted response to external pressures. The range of vaccines was able to achieve the degree of reliability necessary in a very short amount of time. In the same way, the adaptation of the Health system to the vaccines was quite rapid, as seen in the vaccination campaigns around the world and the orientations of doctors with respect to this. Law, in turn, strove to verify

typical questions in relation to the functionality of the vaccines and orientations originating in diverse branches of the health system.

With the maintenance of functional differentiation, even when tested to the extreme – and by extremists – the global system of society achieved, in record time, the adaptation to pandemic communication from the pandemic of COVID-19. The systems of health, Science and Law, each preserving their autonomy, assimilated the new elements brought by COVID-19 in a way to delineate their self-immunization. They project towards the future with a greater capacity to manage pandemics and future pandemic communication.

Paradoxically, therefore, truth in a society where an unknown illness multiplies and communicates in an exponential way depends on a certain false complicity with regard to hypothesis in order to achieve the planned level of health (cure and/or prevention). It is only in this way that Law will be capable of observing such communication as being in accordance with the Law or in discordance with it. At the end of the day, one can affirm that the immunizing “vaccine” for Law is in the maintenance of normative expectations in a pandemic communication of a pandemic such as COVID-19, on the path of self-immunization in a constant process of functional differentiation.

References

- Aguirre, J.A., 2012. *Para leer a Luhmann*. Ciudad de México: Universidad Iberoamericana.
- Almeida, A.G., 2022. O que é isto: A sociedade sem o homem? Uma introdução para a compreensão da comunicação na teoria dos sistemas de Niklas Luhmann. *Revista Brasileira de Sociologia do Direito* [online], 9(2), 4-30. Available at: <https://doi.org/10.21910/rbsd.v9i2.597>
- Amado, J.A., 1993. La Soci  t   et le Droit Chez Luhmann. In: A.J. Arnaud and P. Guibentif, eds., *Niklas Luhmann Observateur du Droit*. Paris: LGDJ, 102-145.
- Azev  do, B.M., 2020. A pandemia do Coronav  rus Observada a Partir da Teoria dos Sistemas de Niklas Luhmann: breves considera  es. *Revista CEJ*, 24(79), jan./jul, 16-21.
- Bora, A., 2012. Capacidade de Lidar com o Futuro e a Responsabilidade por Inova  es - para o trato social com a temporalidade complexa. In: G. Schwartz, ed., *Juridiciza  o das esferas sociais e fragmenta  o do direito na sociedade contempor  nea*. Porto Alegre: Livraria do Advogado, pp. 127-146.
- Cadenas, H., 2020. El Sistema de la Pandemia: apuntes sociologicas. *Simbi  tica* [online], 7(1), 11-20. Available at: <https://periodicos.ufes.br/simbiotica/article/view/30979>
- Cadenas, H., and Mascare  o, A., 2020. Diretrizes para uma Sociologia Evolutiva de Diferencia  o Funcional na Am  rica Latina. *Sociologia e Antropologias* [online], 10(1), jan-abr, 75-98. Available at: <https://doi.org/10.1590/2238-38752019v1012>
- Corsi, G., ed., 2015. *Salute e malattia nella teoria dei sistemi. A partire da Niklas Luhmann*. Milan: Franco Angeli.

- Espinoza de los Monteros, J., 2021. De la Pandemia de la COVID-19 a la Infodemia: una perspectiva sistémica. *Revista Direito Mackenzie* [online], 15(2), 1-19. Available at: <https://doi.org/10.5935/2317-2622/direitomackenzie.v15n214557>
- Esposito, E., 2020. Systemic Integration and the Need for De-Integration in Pandemic Times. *Sociologica* [online], 14(1), 3-20. Available at: <https://doi.org/10.6092/issn.1971-8853/10853>
- Finco, M., and Martini, S.R., 2015. Vaccinarsi Contro Il COVID-19: Riflessioni su Informazione, Opinione Pubblica e Scienza a Partire del Caso Italiano. *Revista Direito Mackenzie*, 15(3), 1-22.
- Foucault, M., 2022. *Nascimento da Biopolítica*. São Paulo: Martins Fontes.
- Guibentif, P., 2012. Os Direitos Subjectivos na Teoria dos Sistemas de Niklas Luhmann. In: G. Schwartz, ed., *Juridicização das esferas sociais e fragmentação do direito na sociedade contemporânea*. Porto Alegre: Livraria do Advogado, 109-126.
- Harste, G., and Febbrajo, A., eds., 2013. *Law and Intersystemic Communication Understanding 'Structural Coupling'*. London: Routledge.
- Health Direct, 2022. What is a pandemic? *Health Direct* [online], February. Available at: <https://www.healthdirect.gov.au/what-is-a-pandemic>
- Lima, F.R., 2015. *Saúde e Supremo Tribunal Federal*. Curitiba: Juruá.
- Luhmann, N., 1976. The Future Cannot Begin: Temporal Structures in Modern Society. *Social Research*, 43(1), 130-152.
- Luhmann, N., 1984. *Soziale Systeme*. Frankfurt: Suhrkamp.
- Luhmann, N., 1990. *Die Wissenschaft der Gessellschaft*. Frankfurt am Main: Suhrkamp.
- Luhmann, N., 1996. *La Ciencia de la Sociedad*. Ciudad de México/Guadalajara/Barcelona: Universidad Iberoamericana/Itesto/Anthropos.
- Luhmann, N., 2000. *Die Politik der Gesellschaft*. Frankfurt am Main: Suhrkamp.
- Luhmann, N., 2006. *A Improbabilidade da Comunicação*. Lisbon: Vega.
- Martini, S.R., 2015. Sistema social da saúde e a Teoria Sistêmica de Luhmann. *Revista de Direito Sanitário* [online], 16(1), 112-127. Available at: <https://doi.org/10.11606/issn.2316-9044.v16i1p112-127>
- Mascareño, A., 2018. De la Crisis a las Transiciones Criticas en Sistemas Complejos: hacia una acutalización de la teoría de sistemas sociales. *Theorein, Revista de Ciencias Sociales* [online], 3(1), 109-143. Available at: <https://doi.org/10.26807/theorein.v3i1.19>
- Moeller, H.G., 2011. *The Radical Luhmann*. New York: Columbia University Press.
- Neves, F.M., 2020. Provincializando o COVID-19: Resposta ao Vírus em Contexto Hipercomplexo. *Revista Nau Social* [online], 11(20), mai/out, 157-165. Available at: <https://doi.org/10.9771/ns.v11i20.36514>

- Neves, M., 1992. Da Autopoiese à Alopoiese do Direito. In: J.S. Borges and J.M. Adeodato, eds., *Anuário do Mestrado em Direito*. Recife: Faculdade de Direito da UFPE, pp. 273-298.
- Neves, M., 2011. *A Constituição Simbólica*. São Paulo: Martins Fontes.
- Neves, M., 2012. Aumento de complexidade nas condições de insuficiente diferenciação funcional: o paradoxo do desenvolvimento social da América Latina. In: G. Schwartz, ed., *Juridicização das Esferas Sociais e Fragmentação do Direito*. Porto Alegre: Livraria do Advogado, 199-207.
- Ribeiro, D.H., 2020. Tempo, Sistemas Sociais e a COVID-19: a crise sanitária. In: D.H. Ribeiro and D. Achutti, eds., *A Crise Sanitária Vista pelo Direito: Observações desde o PPGD/Unilasalle sobre a COVID-19*. Canoas: Unilasalle, pp. 29-36.
- Rocha, L.S., 1998. *Epistemologia Jurídica e Democracia*. São Leopoldo: Unisinos.
- Rocha, L.S., and Simioni, R.L., 2019. Perícias Técnicas, Decisões Jurídicas e Gestão em Sistemas Setoriais no Contexto dos Novos Direitos. *Revista da Faculdade de Direito do Sul de Minas* [online], 35(1), 381-402. Available at: <https://revista.fdsu.edu.br/index.php/revistafdsu/article/view/307>
- Rocha, L.S., Kölling, G.J., and Olsson, G.A., 2019. Interações entre o Sistema da Medicina e da Saúde: observações a partir da Teoria dos Sistemas Sociais. *Seqüência* [online], 83, dez, 160-192. Available at: <https://doi.org/10.5007/2177-7055.2019v41n83p160>
- Rodrigues, L.P., and Costa, É.G., 2021. Impacto da pandemia de COVID-19 ao sistema social e seus subsistemas: reflexões a partir da teoria social de Niklas Luhmann. *Sociologias* [online], 23(56), jan-abr, 302-335. Available at: <https://doi.org/10.1590/15174522-102859>
- Schwartz, G., 2001. *Direito à Saúde : efetivação em uma perspectiva sistêmica*. Porto Alegre: Livraria do Advogado.
- Schwartz, G., 2004. *O Tratamento Jurídico do Risco no Direito à Saúde*. Porto Alegre: Livraria do Advogado.
- Schwartz, G., and Costa, R.A., 2020. A COVID-19 e o Primado da Diferenciação Funcional no Caso da Hidroxicloroquina: o Direito entre o Sistema da Saúde e da Ciência. In: F.R. Sousa Lima et al., eds., *COVID-19 eos Impactos no Direito. Mercado, Estado, Trabalho, Família, Contratos e Cidadania*. São Paulo: Almeida, pp. 303-314.
- Scliar, M., 2005. *Do Mágico ao Social: trajetória da saúde pública*. São Paulo: SENAC São Paulo.
- Stichweh, R. 2022. Un Sistema Inmunológico Social para Pandemias. *Sistemas Sociales* [online], 20 July. Available at: <http://sistemassociales.com/un-sistema-inmunologico-social-para-pandemias>
- Stichweh, R., 2011. Towards a General Theory of Function System Crisis. In: P. Kjaer, G. Teubner and A. Febbrajo, eds., *The Financial Crisis in Constitutional Perspective. The Dark Side of Functional Differentiation*. Oxford/Portland: Hart, pp. 43-60.

Vial, S.R., 2015. Construção do Sistema Social da Saúde a Partir da Teoria Sistêmica de Niklas Luhmann. *Revista de Direito Sanitário* [online], 16(1), 112-127. Available at: <https://doi.org/10.11606/issn.2316-9044.v16i1p112-127>

World Health Organization (WHO), 2020. *WHO Director-General's opening remarks at the media briefing on COVID-19* [online]. 11 March. World Health Organization. Available at: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>