

# ELETRÔNICOS

Direito Internacional sem Fronteiras

## THEORY OF KNOWLEDGE AND CRISIS OF PARADIGMS:

International Relations And International Scientific Cooperation Post-Pandemic<sup>1,2</sup>

*Teoria do Conhecimento e Crise de Paradigmas:*

*As Relações Internacionais e a Cooperação Científica Internacional Pós-Pandemia*

André Luiz Vieira Valim 

Universidade Estadual Paulista – Franca, São Paulo.

**ABSTRACT:** This article aims to study the concepts, conceptions and approaches on science, theory, paradigm and hypotheses formulated specifically in the works of Thomas Kuhn (Structures of Scientific Revolutions) and Boaventura de Sousa Santos (A discourse on the Sciences; and, The Cruel Pedagogy of the Virus) the latter about the social consequences of a post-pandemic world. Thus, we intend to understand how the theory of knowledge about the differentiation between common sense and scientific knowledge has been the subject of discussions for decades and is even more relevant in a world that has proved fragile and sensitive, globally and generally, in the face of the coronavirus pandemic (Covid-19) in 2020. This public health emergency of international importance that culminated in the infection of millions of people in hundreds of countries, causing thousands of deaths, presented itself as a crisis in knowledge and health practices, international relations and science as knowledge and practices; thus demonstrating the imprescindibility of a world-class diplomatic combination in relation to indiscernible problems and issues that do not respect borders, sovereignties or military or economic powers. The specific objective aims to verify and demonstrate how international relations in the post-pandemic should therefore be directed by

---

<sup>1</sup> This material was translated and reviewed by Laura Carvalho Higino (Universidade do Estado do Rio de Janeiro – UERJ); Vinicius Villani Abrantes (Universidade Federal de Minas Gerais – UFMG); and Thiago Giovani Romero (Universidade de São Paulo – USP).

<sup>2</sup> Translator's Note (t/n.): This article was originally published in: VIEIRA, André Luiz Valim. Teoria do Conhecimento e Crise de Paradigmas: as relações internacionais e a cooperação científica internacional pós-pandemia. In: ABRANTES, V. V. (Org.). Faces da pandemia de COVID-19 nas relações internacionais e no direito internacional. Campina Grande: Editora Amplla, 2021, p. 245-267. The translation was authorized by the author, André Luiz Vieira Valim, and by the collective book's organizer in which it was originally published. All ideas and quotations in this text are the responsibility of the author.

desiderates of international scientific cooperation and expansion of knowledge on issues and issues that affect all nations. Just as in the decades of the first half of the 20th century the abolition of war and the search for peace between states were the desideratum of countries, in the 21st century the paradigm of relations between nations must be the search for international scientific cooperation for the life, dignity, security and well-being of subjects of international law and with the valorization of human rights as leading normative elements and also as international norms of universal commitment.

**Keywords:** Scientific crisis. International Relations. Pandemic. International scientific cooperation.

**RESUMO:** O presente artigo tem por objetivo o estudo dos conceitos, concepções e abordagens sobre ciência, teoria, paradigma e hipóteses formulados especificamente nas obras de Thomas Kuhn (Estruturas das Revoluções Científicas) e Boaventura de Sousa Santos (Um discurso sobre as Ciências; e, A Cruel Pedagogia do Vírus) este último acerca das consequências sociais de um mundo pós-pandemia. Pretendemos assim, compreender como a teoria do conhecimento acerca da diferenciação entre senso comum e conhecimento científico têm sido objeto de discussões durante décadas e se mostram ainda mais relevantes em um mundo que se mostrou frágil e sensível, de modo global e geral, ante a pandemia do coronavírus (Covid-19) no ano de 2020. Esta emergência de saúde pública de importância internacional que culminou na infecção de milhões de pessoas em centenas de países, ocasionando milhares de óbitos, apresentou-se como uma crise no conhecimento e nas práticas sanitárias, das relações internacionais e da ciência enquanto conhecimento e práticas; demonstrando assim a imprescindibilidade de uma conjugação diplomática de nível mundial em relação a problemas e questões indiscerníveis e que não respeitam fronteiras, soberanias ou potências militares ou econômicas. Como objetivo específico almejamos verificar e demonstrar como as Relações Internacionais na pós-pandemia devem, portanto, ser direcionadas por desideratos de cooperação científica internacional e de ampliação do conhecimento sobre questões e assuntos que afetam a todas as nações. Assim como nas décadas da primeira metade do século XX a abolição da guerra e a busca pela paz entre os Estados foram o desiderato dos países, no século XXI o paradigma das relações entre as nações deve ser a busca de uma cooperação científica internacional em prol da vida, da dignidade, da segurança e do bem-estar dos sujeitos de direito internacional e com valorização dos direitos humanos enquanto elementos normativos dirigentes e igualmente como normas internacionais de compromisso universal.

**Palavras-chave:** Crise científica. Relações Internacionais. Pandemia. Cooperação científica internacional.

## 1. INTRODUCTION

The present article, linked to the International Law Without Borders project, has the general objective of studying the concepts, conceptions, and approaches to science, theory, and paradigm formulated specifically in the works of Thomas Kuhn (*Structures of Scientific Revolutions*) and Boaventura de Sousa Santos (*A Discourse on Science*; and, *The Cruel Pedagogy of the Virus*), the latter about the social consequences of a post-pandemic world.

In the first part we seek to understand how the theory of knowledge from the premises presented by the two mentioned thinkers. The understanding of what is scientific knowledge and natural science, dominant and emerging paradigms; and, how the crisis enables the sciences to advance in their contribution to humanity.

In the second part, we will present an overview of how the technological world, with its never-ending societies and people, has become fragile and sensitive, globally and generally, to the coronavirus pandemic (Covid-19) in the year 2020. This is because this public health emergency of international importance has resulted in the infection of millions of people in hundreds of countries, causing thousands of deaths. It presented itself as a crisis in health knowledge and practices, in international relations, and in science as knowledge and ways of knowing; thus demonstrating the indispensability of a worldwide diplomatic-scientific conjugation.

In the third part, our specific objective consists in verifying and demonstrating how International Relations in the post-pandemic period should, therefore, be directed by desiderata of international scientific cooperation and the expansion of knowledge on issues and subjects that affect all nations. From the understanding of the "international law of catastrophes" we can glimpse that, in the XXI century, especially in a world after the coronavirus pandemic, the paradigm of relations between countries should be the search for an international scientific cooperation in favor of life, dignity, security and welfare of the subjects of international law and with the valorization of human rights as normative elements and also as international norms of universal commitment.

## 2. THEORY OF KNOWLEDGE AND INTERNATIONAL RELATIONS

When seeking to understand and find solutions to the problems and afflictions of the present, society seeks to focus on an elementary tripod of the theory of knowledge that has helped humanity: science, knowledge, and paradigm.

When dealing with the structure of scientific revolutions, Thomas Kuhn states the need to differentiate between the crisis of science and natural science: the crisis of science is what will enable the existence and creation of scientific revolutions, that is, of situations that can enable the advancement of scientific thought. In this sense that "[...] scientific revolutions are the disintegrating complements of the tradition to which the activity of normal science is linked." (KUHN, 1978, p. 25).

Seeking to explain the effects of this discrepancy, the author suggests that normal science may even be able to overcome this crisis, these problems, either by a new generation of scientists or by the emergence of a new paradigm<sup>3</sup> to replace the failed one. For this reason, it seeks to label this attempt "extraordinary research" and the formulation of another "scientific revolution" paradigm. Through the creation of new knowledge, it is possible to achieve the

---

<sup>3</sup> By paradigm the author means the "[...] universally recognized scientific achievements that, for some time, provide model problems and solutions for a community of practitioners of a science." (KUHN, 1978, p. 20).

modification of the scientific paradigm: “[...] the scientific theory, once it has reached the status of paradigm, is considered invalid only when there is another alternative to replace it” (KUHN, 1978, p. 108). Therefore, the crisis in science - this also includes the social sciences and the humanities - are relevant processes of transformation of paradigms that were once dominant, are renewed.

Only through a scientific crisis is it possible to achieve scientific revolutions and thus overcome the dominant paradigm with the replacement of new paradigms and new knowledge. So much so that “[...] reject a paradigm without simultaneously replacing it with another is to reject science itself” (KUHN, 1978, p. 110). Stating further that:

Instead of being an interpreter, the scientist who embraces the new paradigm is like the man who wears an inverting lens. Faced with the same constellation of objects as before, and being aware of it, he finds them, nevertheless, totally transformed in many of their details. (KUHN, 1978, p.157)<sup>4</sup>

On natural science and on the other hand art and philosophy, the author argues that there is only a process if the subjects seek the development of the same paradigm. And in this sense he concludes:

Scientific progress is no different from that made in other areas, but the absence, in most cases, of competing schools that mutually question their goals and criteria, makes it much easier to perceive the progress of a normal scientific community. (KUHN, 1978, p. 205)<sup>5</sup>

Unlike Thomas Kuhn, the Portuguese sociologist Boaventura de Sousa Santos is less concerned with the abstract explanation of concepts within the philosophy of knowledge and more with the historical process of knowledge formation: first, the differentiation between vulgar or common knowledge and the so-called scientific knowledge. To this end, he carries out a series of analyses and seeks to demonstrate how we are in a moment of transition between the dominant paradigm of science (modern) and the emerging paradigm of science (postmodern).

The crisis then, in the author's view, is not a crisis of science aimed at replacing the traditional or dominant paradigm; rather, the crisis of current science is the collapse of dominant science structured in a way of thinking and practicing the economy, capital and society. The author notes the current crisis of knowledge and science and boasts that:

We are at the end of a cycle of hegemony of a certain scientific order. The epistemic conditions of our questions are inscribed on the reverse side of the concepts that we use to answer them. An effort of unraveling is necessary, conducted on a razor's edge between the lucidity and the unintelligibility of the answer. The sociological and

<sup>4</sup> Original excerpt in Portuguese: Em vez de ser um intérprete, o cientista que abraça o novo paradigma é como o homem que usa lentes inversoras. Defrontado com a mesma constelação de objetos que antes, e tendo consciência disso, ele os encontra, não obstante, totalmente transformados em muitos de seus detalhes. (KUHN, 1978, p.157).

<sup>5</sup> Original excerpt in Portuguese: “O progresso científico não é diferente daquele obtido em outras áreas, mas a ausência, na maior parte dos casos, de escolas competidoras que questionem mutuamente seus objetivos e critérios, torna bem mais fácil perceber o progresso de uma comunidade científica normal. (KUHN, 1978, p. 205).

psychological conditions of our asking are equally different and much more complex. (SANTOS, 1995, p. 10)<sup>6</sup>

The crisis of the dominant paradigm, in the view of the Lusitanian thinker, allows society the emergence of emerging paradigms: one of the identifying characteristics of postmodernity, therefore:

Since a scientific revolution is taking place in a society that is itself revolutionized by science, the paradigm to emerge from it cannot only be a scientific paradigm (the paradigm of prudent knowledge), it must also be a social paradigm (the paradigm of decent living). [...] The knowledge of the emerging paradigm thus tends to be a non-dualistic knowledge, a knowledge that is founded on the overcoming of the very familiar and obvious distinctions that until recently we considered irreplaceable, such as nature/culture, natural/artificial, living/inanimate, mind/matter, observer/observed, subjective/objective, collective/individual, animal/person. This relative collapse of dichotomous distinctions has repercussions on the scientific disciplines that were founded upon them. (SANTOS, 1995, p. 37-40)<sup>7</sup>

Boaventura's thought then seeks to reject the epistemological separation between natural sciences and social sciences. In proposing the overcoming of this dominant paradigm, he uses the crises as a support for the emergence and establishment of emerging paradigms without duality or separation. The very concept of separation between scientific knowledge and common sense becomes more indiscernible where the local, as a parcel of knowledge, can present itself as total if the reference is its origin or ambience.

Postmodern science would then have the task of:

Emergent paradigm science, being, as I said above, assumedly analogical, is also assumedly translational, that is, it encourages locally developed concepts and theories to migrate to other cognitive sites so that they can be used outside their context of origin. This procedure, which is repressed by a form of knowledge that conceives through operationalization and generalizes through quantity and standardization, will be normal in a form of knowledge that conceives through imagination and generalizes through quality and exemplarity. Postmodern knowledge, being total, is not deterministic, being local, is not descriptivist. It is a knowledge about the conditions of possibility. The conditions of possibility of human action projected into the world from a local space-time. Such knowledge of this type is relatively immethodic, it is constituted from a methodological plurality. Each method is a language, and reality responds in the language in which it is asked. Only a constellation of methods can capture silence that persists between each language that asks. In a phase of scientific

---

<sup>6</sup> Original excerpt in Portuguese: Estamos no fim de um ciclo de hegemonia de uma certa ordem científica. As condições epistêmicas das nossas perguntas estão inscritas no avesso dos conceitos que utilizamos para lhes dar resposta. É necessário um esforço de desvendamento conduzido sobre um fio de navalha entre a lucidez e a ininteligibilidade da resposta. São igualmente diferentes e muito mais complexas as condições sociológicas e psicológicas do nosso perguntar. (SANTOS, 1995, p. 10).

<sup>7</sup> Original excerpt in Portuguese: Sendo uma revolução científica que ocorre numa sociedade ela própria revolucionada pela ciência, o paradigma a emergir dela não pode ser apenas um paradigma científico (o paradigma de um conhecimento prudente), tem de ser também um paradigma social (o paradigma de uma vida decente). [...] O conhecimento do paradigma emergente tende assim a ser um conhecimento não dualista, um conhecimento que se funda na superação das distinções tão familiares e óbvias que até há pouco considerávamos insubstituíveis, tais como natureza/ cultura, natural/artificial, vivo/inanimado, mente/matéria, observador/observado, subjetivo/objetivo, coletivo/individual, animal/pessoa. Este relativo colapso das distinções dicotômicas repercute-se nas disciplinas científicas que sobre elas se fundaram. (SANTOS, 1995, p. 37-40).

revolution such as the one we are going through, this plurality of methods is only possible through methodological transgression. (SANTOS, 1995, p. 48)<sup>8</sup>

International Relations as a science, source and object of knowledge are part of this field of discussion of the theory of knowledge to the extent that themes discussed in a transnational character are often revealed as local issues that can be found in several nations. Added to this are also the internal and regionalized themes and events that gain a global dimension: such as crime, environmental issues and pollution; and also actions related to health: which are linked to those related to pandemics, vaccines, diseases, among others.

By understanding the world and the countries as an international society, we can perceive that there are many more factors that bring us closer to other countries and other people, beyond the territories of the sovereignty of nations, than issues that keep us apart, separate or differentiate us. In fact, the idea of International Society - a term coined by Hugo Grócio in the 17th century - allows us to direct our attention to the joint action of States in the international domain. For Hedley Bull, the international society would be the group of independent political communities that do not form a simple system.

There is no doubt that the international society is closely interconnected, integrated into a broad process of globalization, where situations that occur in China can affect us, Brazilians, on the other side of the planet: such as the events that will take place at the end of 2019 and throughout the year 2020. When it comes to the globalized world and international relations between countries, but also between people, economies, and companies, we see more clearly that the other's problem becomes also our problem. Helping to solve the other's problems involves finding solutions and proposals for our own problems: which are often the same, just different in size and location.

### **3. (INTER)NATIONAL HEALTH SITUATION AND THE CORONAVIRUS PANDEMIC (COVID-19)**

The coronavirus or scientifically known and recognized as Sars-Cov-2 or Covid-19 has become a concept that represents a set of diseases caused by a virus that in a few months reached worldwide incidence and affected thousands of people in several countries on all continents. Until then only known in the medical and health circles - among virologists and epidemiologists, researchers and scientists - it has become the cause and motive of the most relevant events in medical-sanitary and legal-political terms in the last decade.

Toward the end of 2019, approximately around December 2019, a group of patients with pneumonia and breathing difficulties, of hitherto unknown cause, were linked to certain

---

<sup>8</sup> Original excerpt in Portuguese: A ciência do paradigma emergente, sendo, como deixei dito acima, assumidamente analógica, é também assumidamente tradutora, ou seja, incentiva os conceitos e as teorias desenvolvidos localmente a emigrarem para outros lugares cognitivos, de modo a poderem ser utilizados fora do seu contexto de origem. Este procedimento, que é reprimido por uma forma de conhecimento que concebe através da operacionalização e generaliza através da quantidade e da uniformização, será normal numa forma de conhecimento que concebe através da imaginação e generaliza através da qualidade e da exemplaridade. O conhecimento pós-moderno, sendo total, não é determinístico, sendo local, não é descritivista. É um conhecimento sobre as condições de possibilidade. As condições de possibilidade da ação humana projetada no mundo a partir de um espaço-tempo local. Um conhecimento deste tipo é relativamente imetódico, constitui-se a partir de uma pluralidade metodológica. Cada método é uma linguagem e a realidade responde na língua em que é perguntada. Só uma constelação de métodos pode captar silêncio que persiste entre cada língua que pergunta. Numa fase de revolução científica como a que atravessamos, essa pluralidade de métodos só é possível mediante transgressão metodológica. (SANTOS, 1995, p. 48).

symptoms of a disease that originated in a wholesale seafood market in Wuhan, Hubei Province, People's Republic of China. This was a previously unknown betacoronavirus, the result of mutagenesis, which was discovered through the use of unbiased sequencing on samples from patients with pneumonia. Human airway epithelial cells were used to isolate a new coronavirus, called 2019-nCoV (ZHU; ZHANG et al, 2020).

On January 23, 2020, the Chinese government introduced control measures aimed at limiting the spread of the disease, including travel bans to stop the expected mass population movements (GWENDOLYN, 2020). However, these territorial containment initiatives of the virus did not achieve the desired intent, because, even before these measures, several people made international trips to different countries without, often, even knowing about their state of contamination.

More correctly and rightly we should speak of several coronaviruses and not just one coronavirus. They actually consist of a group of viral pathologies from a family of contaminants which are: SARS, MERS and COVID-19, all caused by recently discovered coronaviruses that cause flu-like illnesses but with a clinical outcome that tend to be more severe and with greater causes of death (COSTA, MORELI, SAIVISH, 2020). For this respiratory disease, called COVID-19, a new coronavirus (SARS-CoV-2) has been identified as the etiologic agent.

It should be noted that coronavirus infections in humans usually lead to respiratory symptoms such as nasal discomfort, sore throat, cough and fever; and that most human coronaviruses are transmitted by inhalation or direct contact with respiratory secretions or droplets containing the virus (SHENG et al, 2020). For the virus there are therefore no physical or territorial barriers, national or geographical boundaries, that can stop it in its expansion.

Considering the risk and the proliferation of the number of cases, the World Health Organization has decreed the coronavirus as a Public Health Emergency of International Importance (PEMI) according to the International Health Regulations, an international normative incorporated into the Brazilian legal system through Decree no. 10,212, of January 30, 2020. With the emergence of Law no. 13,797, of February 6, 2020, measures were created to address the international public health emergency and protect the community, subsequently regulated by Ordinance n.º 356, of March 11, 2020, of the Ministry of Health.

It should be noted that this federal law of national regulation on the forms of care treatment in the face of the pandemic - called the "quarantine law" - had a casuistical, extremely fast processing, which made a democratic debate impossible (VENTURA; AITH, 2020, p. 08).

After long denying an epidemic outbreak, the People's Republic of China had to finally implement strict and severe measures of social distancing, putting Wuhan and other affected cities on a blockade in order to control the crisis and the exponential increase in the number of infected cases. These measures helped break the chain of transmission and mitigate the outbreak. China's COVID-19 case numbers began to decline (KAHN, 2020). However, they were not enough to the export of the virus and the uncontrolled spread of sick and dead.

Some questions were raised about the eventual accountability of China at the international level on delays or possible omissions in the disclosure of the real scope and risks of the disease (MAZUOLLI, 2020). In general, to combat the coronavirus, several actions were determined, which although different from each other, had in common the practice of isolation and social distancing between people, the (re)organization of health systems (infirmaries and intensive care units), the creation of medical protocols and treatments, although diverse, were very close to the guidelines issued by the World Health Organization. The recommendations

issued by the Emergency Committee of the supra state health agency included the measures of: containment, including active surveillance, early detection; as well as severe measures of social isolation and case management; contact tracing; and prevention of the progressive spread of Covid-2019 infection.

It happens that the measures proposed by the federal government through the Ministry of Health in the treatment of the pandemic were not always in the exact measures of the announcements proposed by the Head of the Executive Power causing several conflicts with the norms and actions taken at state and regional levels. Under the premise of a Democratic and Constitutional State of Law, where the federalist logic of integration in several inter-federal levels of power should be harmonious and complementary, we can see an anomie of the central government.

The risk situation and the consequences of the pandemic demonstrated the fragility of the public health policies and the incompetence of the main national leaders. The total lack of reasonability and of practical, effective, and efficient actions was proven, because, as a hasty normative forecast, several restrictive measures were created, including unconstitutional ones, by non-statutory acts. These are situations that:

[...] in democratic states, measures restricting fundamental rights and freedoms must be regulated in detail to ensure that they are properly motivated, reasonable and proportionate, and potentially efficient; in the field of health, in particular, it is imperative that they be based on scientific evidence. (VENTURA; AITH, 2020, p. 10)<sup>9</sup>

The exchange of information and data, the interchange and publication of new discoveries and forms of examination and testing; the elaboration of measures of social isolation and health care represented dealings and understandings between nations and between the scientists and researchers of these various nations. Scientific, clinical, and epidemiological data were very important for political decision-making. Even in the face of an "infodemic" scenario of false information (GWENDOLYN, 2020), especially through social media, fueling various conspiracy theories, public alarms, stigmatization of affected communities, and increased economic costs disproportionate to health risks; the positive results and achievements proved far more relevant than the misinformation.

#### **4. INTERNATIONAL SCIENTIFIC COOPERATION AND PARADIGM CRISIS: (UN)FRAGMENTATION OF BORDERS AND POST-PANDEMIC INTERNATIONAL RELATIONS**

The urgency of the pandemic called for several measures to be taken jointly among the countries and for common efforts to be made to enable a uniform and similar treatment of the problem in the various nations. Due to the novelty of the characteristics, symptoms, and consequences of this virus - coupled with its infectious speed - scientific discoveries and political and sanitary measures demanded practices that mobilized millions of people in hundreds of places, some very distant geographically, to strategize and carry out effective measures, barriers, and actions.

<sup>9</sup> Original excerpt in Portuguese: [...] em Estados democráticos, medidas restritivas de direitos e liberdades fundamentais devem ser reguladas de forma detalhada, a fim de garantir que sejam devidamente motivadas, razoáveis e proporcionais, além de potencialmente eficientes; no campo da saúde, em particular, é imperativo que sejam baseadas em evidências científicas. (VENTURA; AITH, 2020, p. 10).

Pandemics are not new or recent facts on the international scene. This is because the very anatomy of history, when dissecting human suffering, reminds us that the current pandemic outbreak is not the first, nor will it be the last (PROCÓPIO, 2020, p. 334). Since the outbreak of Spanish flu in the early decades of the century, through global and regional conflicts, we realize the significant changes in the way of acting and the political mentality in international relations.

If before, the main themes of international politics revolved around commercial exchanges, economic circulation, freedom or restriction of the flow of people and capital, the coronavirus pandemic (Covid-19) was the international event responsible for promoting - in such a significant historical and chronological timeframe, in the space of only a few weeks or months - relevant changes in paradigms in the international society of the 21st century. While the international law of previous decades and centuries had war, conflicts, diplomacy, and economic relations as the fundamental pillars of transnational relations: the current pandemic demanded the union of collective international efforts for its resolution.

The coronavirus pandemic highlights what has been discussed in international law in recent years as the "international law of disasters". A new specialty within International Law that is: international law of disasters. "The international law of disasters presents aspects that involve several specialties of public international law, such as environmental, human, humanitarian, economic, development, and others." (GUERRA, 2017, p. 332).

When then an event or succession of events, in this case of natural order or from nature, that causes impacts and significant changes in the social order. For Richard Posner (2004) an event that is believed to have a low probability of materializing, but that if it does, will cause huge and sudden damage, besides being disconnected with the flow of events that follow it.

The very logic of the existence of disasters that affect the international orbit of relations between people and states, considering the existence of the risk society. Facts and events that go beyond the territorial and political limits beyond the walls of sovereignty and country boundaries - with common origins and common consequences - as disasters in the international sphere, presuppose the search for similar solutions and measures.

To Professor Sidney Guerra:

In this scenario of major transformations resulting mainly from the globalization process, risks are also manifested on a large scale, be they economic, geopolitical, social, industrial, technological, natural, or others. In this study, whose proposal is to present the foundations for the construction of the international law of catastrophes, the natural risks gain prominence, whose results result from the association of risks produced by processes arising from nature aggravated by human activities and the occupation of the territory. (GUERRA, 2017, p. 334).<sup>10</sup>

As the months of the year 2020 passed by and the progression of the infection cases combined with the frightening mortality of patients made the coronavirus disaster move from a mere collective contamination located inside China to a problem of global and cross-border

<sup>10</sup> Original excerpt in Portuguese: Nesse cenário de grandes transformações decorrentes principalmente do processo de globalização também manifesta-se, em larga escala, o risco, sejam eles econômicos, geopolíticos, sociais, industriais, tecnológicos, da natureza e outros. Neste estudo, cuja proposta é de apresentar os alicerces para a construção do direito internacional das catástrofes, ganha relevo os riscos naturais, cujos resultados decorrem da associação dos riscos produzidos por processos advindos da natureza agravados pelas atividades humanas e pela ocupação do território." (GUERRA, 2017, p. 334).

scope. The mobilization of several countries and international organizations intensified and demonstrated the need for global alignment for the treatment of this etiology.

The WHO (World Health Organization) on March 11, 2020 recognizes the coronavirus (Sars-Cov2) or Covid-19 as a pandemic: what according to the International Health Regulations is recognized as a public health emergency of international concern (PISS). With the UN international organization's declaration of the risk to the health and population of all nations, the nations began to realize that closing borders or restricting the access of foreigners would not be enough: what was needed were efforts and the international cooperative union of all - national political entities, international bodies, pharmaceutical companies and industries, research laboratories and universities - to find how to face this new pandemic.

The sociology of crises teaches that human survival looks to religions and emergency experts for help. Even before Covid-19, political exploitation of poverty and environmental degradation was already compromising respect for fundamental rights. Later, with the economy weakened, with harvests and plantations postponed, with forests and rivers threatened, only another international moral will spare taxpayers from the fetid possession of the viral load. (PROCÓPIO, 2020, p. 346)

If issues such as human rights, poverty, criminality or pollution and environmental issues do not find resonance in some countries or unanimity in the international society, the pandemic revealed the other face, that is, the need for joint efforts and actions against the coronavirus. The construction of a global agenda for humanitarian aid, for the flow of knowledge and know-how, for the need to disseminate new findings or relevant data, and also for worldwide scientific and technological cooperation for vaccine research and development.

The paradigms that were once dominant in international relations as mechanisms of dialogue and negotiations, of dialectics between countries to discuss issues related to world geopolitics, trade, and movement of people have given way - since the globalized pandemic of the coronavirus - to joint searches to minimize the destructive effects of this infection; and, even more: in a scientific and dialogical international cooperation. The result of this is that in periods of a few months, not years, it has been possible to develop vaccines and forms of treatment, isolation protocols, and containment measures.

The softening of bureaucracies and diplomatic methods of communication and inter-social relations with the dissolution of figurative borders in the face of a common goal was enough to demonstrate that (albeit belatedly) in the 21st century, the paradigm of relations between nations should be the search for international scientific cooperation. All of this having as a desideratum: the life, dignity, security, and well-being of the subjects of international law and with the valorization of human rights as the leading normative elements and also as international norms of universal commitment. As Boaventura Santos said: the climate crisis does not call for a dramatic and emergency response like the one the pandemic is provoking (SANTOS, 2020, p. 22).

From the pandemic it is possible to glimpse the scientific international cooperation of the coronavirus pandemic as a catalyzing element of changes in international relations. This crisis resulting from the pandemic provided the scientific uprising and the search to save lives and minimize losses and social achievements of all kinds.

Now it remains to be seen whether this new path resulting from international scientific cooperation and the worldwide union of nations will remain to face other global problems. This becomes a very important question, for:

Pandemics show in a cruel way how neoliberal capitalism has incapacitated the state to respond to emergencies. The responses that states are giving to the crisis vary from state to state, but none can disguise their incapacity, their lack of predictability in relation to emergencies that have been announced as of near and very probable occurrence. (SANTOS, 2020, p. 28).<sup>11</sup>

As for the post-pandemic world and international relations, the question must be asked: whether the rules of the international relations chessboard have truly changed due to the health crisis of the current pandemic, or whether they were just convenient and timely piece changes.

With regard to international emergencies, we advocate a permanent research agenda, taking into account not only the evolution of specific diseases, but the impact of crises on the health of populations, in addition to the investigation of the social, environmental, economic and political causes of epidemics (VENTURA et al, 2020, p. 02).<sup>12</sup>

In any case, this crisis has made possible scientific and technological advances; the broadening of the global vision of humanity; the change of paradigms of sociability and of how nations and people should interrelate on the world stage. Whether these new paradigms will be sustained or abandoned we will see in the future. Let's just hope that the world and nations don't need the next pandemic, with the risk and death of millions, to bring about the next necessary scientific revolutions and paradigm shifts.

## REFERENCES

- COSTA, Vivaldo Gomes da; MORELI, Marcos Lázaro; SAIVISH, Mariele Vogé. The emergence of SARS, MERS and novel SARS-2 coronaviruses in the 21st century. In: **Archives of Virology**, disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7176030/>
- GUERRA, Sidney César Silva. Catástrofes naturais e a emergência do Direito Internacional das Catástrofes. **Cadernos de Direito Actual**, n. 08, 2017, p. 331-346.
- GUERRA, Sidney César Silva *et al.* A CATÁSTROFE GLOBAL A PARTIR DA PANDEMIA DO CORONAVÍRUS: ALGUMAS REFLEXÕES COM BASE NO DIREITO INTERNACIONAL. **Revista Direito Mackenzie**, São Paulo, 2020, v. 14, n. 2, p. 68-85.

<sup>11</sup> Original excerpt in Portuguese: As pandemias mostram de maneira cruel como o capitalismo neoliberal incapacitou o Estado para responder às emergências. As respostas que os Estados estão a dar à crise variam de Estado para Estado, mas nenhum pode disfarçar a sua incapacidade, a sua falta de previsibilidade em relação a emergências que têm vindo a ser anunciadas como de ocorrência próxima e muito provável. (SANTOS, 2020, p. 28).

<sup>12</sup> “No que se refere às emergências internacionais, defendemos uma agenda de pesquisa permanente, levando em conta não apenas a evolução de doenças específicas, mas o impacto das crises sobre a saúde das populações, além da investigação das causas sociais, ambientais, econômicas e políticas das epidemias” (VENTURA et al, 2020, p. 02).

GWENDOLYN, Gilbert L. SARS, MERS and COVID-19—new threats, old lessons. In: **International Journal of Epidemiology**, 2020, May 20, disponível em: <https://pubmed.ncbi.nlm.nih.gov/32361759/>

KAHN, Laura H. Commentary on: The SARS, MERS and novel coronavirus (COVID-19) epidemics, the newest and biggest global health threats: what lessons have we learned? A One Health approach to coronaviruses. In: **International Journal of Epidemiology**, 2020, Apr 20, disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7197549/>. Acesso em: 26 jul. 2023.

KUHN, Thomas S. **A Estrutura das Revoluções Científicas**. São Paulo: Perspectiva, 1978.

MAZZUOLI, Valério de Oliveira. Responsabilidade internacional dos Estados por epidemias e pandemias transnacionais: o caso da Covid-19 provinda da República Popular da China. **Instituto de Ciências Jurídico-Políticas**, Lisboa, v. 10, abr. 2020.

POSNER, R.ichard. **Catastrophe: Risk and response**. New York: Oxford University Press, 2004.

PROCÓPIO, Argemiro. Conflito e cooperação nas relações internacionais em tempo de pandemia. **Revista Eclesiástica Brasileira**, Petrópolis, volume 80, número 316, p. 333-352, mai/ago. 2020.

SANTOS, Boaventura de Sousa. **A Cruel Pedagogia do Vírus**. Coimbra: Almedina, 2020.

SANTOS, Boaventura de Sousa. **Um discurso sobre as Ciências**. 7ª ed. Porto: Afrontamento, 1995.

SHENG, Wang-Huej; KO, Wen-Chien; HUANG, Yhu-Chering; HUESH, Po-ren. SARS-CoV-2 e COVID-19. In: **Jounal of Micobiology, Immunology, and Infection**, 2020, mar 20, disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7194915/>. Acesso em: 26 jul. 2023.

VENTURA, Deisy de Freitas Lima; AITH, Fernando Mussa Abujamra; RACHED, Danielle Hanna. A emergência do novo coronavírus e a “lei de quarentena” no Brasil. **Revista Direito e Práxis**, *Ahead of print*, Rio de Janeiro, 2020.

VENTURA, Deisy de Freitas Lima *et al.* Desafios da pandemia de COVID-19: por uma agenda brasileira de pesquisa em saúde global e sustentabilidade. **Cadernos de Saúde Pública**, São Paulo, n. 36, 2020.

ZHU, Na; ZHANG, Dingyu, *et al.* A Novel Coronavirus from Patients with Pneumonia in China, 2019, In: **The New England Journal of Medicine**, 2020, Feb 20; 382(8): 727–733, disponível em: <https://pubmed.ncbi.nlm.nih.gov/31978945/>. Acesso em: 26 jul. 2023.

## DADOS DO PROCESSO EDITORIAL

Recebido em: 27 de junho de 2023;  
Controle de plágio: –;  
Decisão editorial preliminar: 27 de junho de 2023;  
Retorno rodada de correções: –;  
Decisão editorial final: 28 de junho de 2023;

Editora: HIGINO, L. C.; ABRANTES, V. V.  
Correspondente: VIEIRA, A. L. V.