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UPDATE

Covid-19 bioethical challenges and conflicts: global health context

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Abstract

Characterized by extreme uncertainty, the Covid-19 outbreak raises important ethical conflicts. In this article, we reflect on these conflicts and the different interests involved in the current scenario. Our critical analysis is based on global bioethics, and focused on Brazil, where public health issues have not been properly integrated with international diplomacy. The simplistic opposition between health and economy has been used as a decision-making strategy and to establish measures to control the virus. However, there are several variables in this context, and an ethical guideline becomes necessary, especially for the decisions made by politicians in the country.
Keywords: Duty to warn. Coronavirus. Bioethics. Risk. Precaution. Diplomacy. Knowledge.

Resumo

Desafios e conflitos bioéticos da covid-19: contexto da saúde global

A pandemia desencadeada pela covid-19, imersa em muitas incertezas, suscita uma série de conflitos éticos. O objetivo deste artigo é refletir sobre esses conflitos e sobre os distintos interesses envolvidos no atual cenário. O horizonte da análise crítica é a bioética global, e o foco do estudo é o Brasil, onde os problemas de saúde decorrentes da covid-19 não têm sido abordados de forma integrada à diplomacia internacional. No país, a oposição simplista entre saúde e economia tem servido de base para decisões estratégicas e medidas de contenção do vírus. No entanto, as variáveis a se considerar são múltiplas, e é necessário um balizador ético, como a responsabilidade dos agentes políticos quanto ao desfecho de suas decisões.
Palavras-chave: Responsabilidade pela informação. Coronavírus. Bioética. Risco. Precaução. Diplomacia. Conhecimento.

Resumen

Desafíos y conflictos bioéticos de la covid-19: contexto de salud global

La pandemia desencadenada por la covid-19, inmersa en muchas incertidumbres, genera una serie de conflictos éticos. Este artículo tiene como objetivo contribuir para la reflexión sobre estos conflictos y sobre los distintos intereses implicados en el escenario actual. El horizonte del análisis crítico es la bioética global, y el estudio se concentra en Brasil, donde los problemas de salud derivados de la covid-19 no han sido abordados de forma integrada a la diplomacia internacional. En este país, la oposición simplista entre salud y economía ha servido de base para decisiones estratégicas y medidas de contención del virus. Sin embargo, múltiples son las variables que se deben tener en cuenta, y son necesarias referencias éticas, como la responsabilidad de los agentes políticos en cuanto al desenlace de sus decisiones.
Palabras clave: Deber de advertencia. Coronavirus. Bioética. Riesgo. Precaución. Diplomacia. Conocimiento.

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The spirit of responsibility rejects the premature verdict of fatality for having taken the course "of history" (...). *To the principle of hope, we oppose the principle of responsibility, not the principle of fear. But certainly, fear belongs to responsibility as much as hope* [1].

This first quarter of a century already has its brand: the Covid-19 pandemic, caused by the Sars-CoV-2 virus. It began in late 2019 in China and quickly spread across the globe, with particular intensity in Italy, Spain, the United Kingdom, and the United States, where the number of contaminated and fatal victims forms a dramatic scenario [2]. The indicators for the last two months of 2020 are worrying: the United States, India and Brazil stand out for concentrating, together, almost half of all confirmed cases in the world (13,082,877, 9,431,691 and 6,290,272, respectively, from a total of 62,363,527 cases in November 30, 2020). Registered deaths follow the same path, with these countries concentrating 39.4% of the total in the world. A second coronavirus wave is surging across Europe, and this may also happen in Brazil in the next months. In the United States and India, the virus is now spreading in rural areas [3].

Until then, discussions on global health had focused on the epidemiological transition from infectious and contagious to chronic and degenerative diseases. The current situation, however, incorporates national specificities, and geopolitical disputes that challenge the management of problems and their effects. Due to the range of consequences for societies, mainly for their way of existing, the pandemic requires actions and interventions that must be articulated, shared, and coordinated globally. In this scenario, the decisions of health managers and government officials have produced very diverse and contrasting effects, which require critical reflection on the causes of such disparities.

Considering this, the reflection on the scientific basis for decision-making and the ethical justification that supports it will give rise to conflicting perspectives in relation to the best actions to be adopted. Such decisions, from the highest governmental levels, have immediate effects on the complex daily life of healthcare facilities and on the doctor-patient relationship – whose typical pragmatism leads to decisions based on clinical and deontological norms and recommendations.

A closer look at these decisions suggests two universes – the individual and the collective – that deal with the same reality from different perspectives, starting from often irreconcilable principles: those of pandemic managers and those of health professionals. This article analyzes these two universes, seeking to identify their ethical guidelines and whether they are sustainable according to the analytical bias of the ethics of responsibility by Hans Jonas [4] and the global bioethics of Van Rensselaer Potter [5]. The reference for the discussion is Brazil, whose current context and idiosyncrasy of public managers present singular aspects for the debate.

The pandemic

Sars-CoV-2 is the viral agent that causes the "coronavirus disease 2019" (Covid-19) [6]. Its genetic material is composed of 30,000 genes organized in enveloped RNA [7-11]. The coronavirus family is known to cause diseases of highly varied severity. The first epidemic caused by this type of virus, called "severe acute respiratory syndrome" (SARS), was registered in 2003, in Asia. In 2012, another coronavirus emerged in Saudi Arabia, with the Middle East respiratory syndrome (Mers) [12]. In addition to these three variants, another four (HKU1, NL63, OC43, and 229E) are known to cause diseases considered to be of low severity in humans [7,11,13].

The first recorded case of Sars-CoV-2 infection occurred in Wuhan, Hubei province, China, where a patient, after being exposed to the virus in the city's wet market, had a clinical condition of severe acute pneumonia previously unknown [6]. Some animals, such as the bat (*Rhinolophus affinis*) and the Malayan pangolin (*Manis javanica*), were considered the likeliest intermediate vectors, due to the genomic proximity of the coronaviruses found in these species and the one that is causing Covid-19 [7,8] .

Studies show great genome similarity of all strains mapped worldwide, suggesting that a single animal-human transmission event has caused the pandemic [7,8,14]. However, due to the high rate of viral mutation, experts point out that the virus may assume endemic characteristics [13]. Since the beginning of the pandemic, issues involving biosafety and bioprotection, including governance, have assumed great importance. Although Sars-CoV-2 has been classified as risk grade 2, its high transmissibility and virulence demonstrate the need of higher levels of biosafety, especially for health professionals, among which the number of infections and deaths has been quite expressive [15,16].

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As yet there is no vaccine or treatment against the virus, patients under severe clinical condition have received medication to relieve symptoms, in addition to sedation, coma induction and, when necessary, mechanical ventilation, hoping that the immune system will respond and stop the viral process [17,18].

The long-term effects on patients who were admitted to intensive care units (ICUs) are still poorly understood. However, the experience in intensive care medicine with other diseases allows some predictions. The use of ventilators leads some patients to develop acute respiratory distress syndrome, atrophy, and muscle weakness [19]. Acoording to Servick, *Many Covid-19 patients who need mechanical ventilators may never recover. Although survival rates vary between studies and countries, a report by the Intensive Care National Audit and Research Center in London found that 67% of Covid-19 patients in England, Wales, and Northern Ireland who received "advanced respiratory support" died. A study in a smaller group of patients in China found that only 14% survived after using a ventilator* [20].

Although the data from ongoing research contains inconsistencies – and it is natural that this happens, given that knowledge is being built as the epidemic progresses – four aspects seem certain: 1) without access to intensive care resources, critically ill patients have no chance of surviving; 2) access to intensive care is not a guarantee of recovery, and a substantial number of patients still do not survive; 3) the degree of physical and psychological suffering of patients in serious condition is very high; and 4) survival to severe clinical conditions is not exempt from the risk from sequelae, and some are prolonged and difficult to overcome.

The high rate of virus spread, favored by airborne transmission, through the oronasal mucosa and, mainly, by the high level of virulence resulting from the easy action on the cell receptor (enzyme ACE2), is causing a relatively common scenario in all affected countries: high mortality rates concentrated in a very short period, with unpredictable pandemic curves [21-24].

Strategies in Brazil for addressing the global problem

Several aspects, such as the behavior and evolutionary dynamics of the virus on each population group, environmental, genetic, and epigenetic characteristics of human hosts, as well as cultural and socioeconomic factors, make it difficult to predict the epidemiological evolution of the disease in each country. However, health decision-making strategies should be based on evidence, and Brazil could have benefited from the information and knowledge accumulated by countries that were already facing the epidemic.

In general, two opposing approaches are being widely discussed, especially in Brazil. The first aims to reduce the speed of spread of the virus by the so-called "flattening of the epidemic curve," to prevent the demand for ICU beds from exceeding the capacity in each region, avoiding deaths resulting from the collapse of the health system and insufficient resources. The second approach allows and even encourages the widespread dissemination and contagion of the virus, to quickly reach high rates of population autoimmunization, aiming to change the chain of transmission of the agent and, thus, to overcome the epidemic through "herd immunity."

In theory, the latter approach would have the secondary effect of preventing further outbreaks of the disease. But such an option is not free from risks, given the unpredictability of the Sars-CoV-2 mutation and possible changes in its internal mechanisms, which could increase its virulence and lethality. For instance, Zhu and collaborators [6] point out that this may be a seasonal disease that humanity will have to live with within the coming years. Thus, under the precautionary principle of Jonas [4], we should discuss whether the two strategies are morally acceptable, considering whether or not they can be extended to all human activities with immediate or uncertain future effects on human health.

At least an interesting and even pedagogical parallel can be drawn, for example, with the Black Death, which spread in three major pandemic events in the Christian era. The first, in the 6th century, caused 100 million deaths; the second, in the 14th century, decimated 40% of the European population; and the third, in the 19th century, spread from China to several countries [25]. According to Barros, a relevant *comparative study of the genome of the strains IP32953 (Y. pseudotuberculosis) and CO92 (Y. pestis) revealed aspects of the evolutionary process that transformed an enteropathogenic ancestor into two pathogens with distinct clinical manifestations* (…) *These results are an example of how a highly virulent species may arise from less virulent species* [26].

If this is a classic example of a viral evolution with disastrous results for the human species, the current moment recommends, as a precaution, to reflect on whether we are facing a new event of equally tragic proportions. Some experts go further, stating that a similar event is imminent, it is just not yet known when it will happen [27].

Disease X: a global alert

The creation of World Health Organization (WHO) in 1948 was an important milestone in the governance of global health. Despite historical difficulties and limitations, it is necessary to recognize that the recent initiatives of the organization, in stimulating and guiding the scientific community towards a great joint effort, are the most important encouragement in the development of research for medicines and vaccines to combat Sars-CoV-2. A retrospective look at WHO's work helps us to understand the importance of a global health action, with unconditional and committed adherence by all Member States to the collective protection of all humanity and biosphere.

Responding to the report of a panel of experts called to assess the organization's response to the epidemic caused by the ebola virus [28], the WHO secretary-general pointed out in 2015 the need to accelerate research and development (R&D) to deal with epidemics and health emergencies [29]. Shortly after, the organization published the first list of priority pathogens for R&D. Updated in 2017 and 2018, it included the two previously known coronaviruses (Mers and Sars), in addition to *the Crimean-Congo hemorrhagic fever; Ebola virus disease and Marburg hemorrhagic fever; Lassa fever;* (…) *infection by the Nipah virus and diseases related to henipaviruses; Rift valley fever; Zika virus;* [and] *disease X* [27].

"Disease X" represents the understanding of WHO that a pandemic caused by a pathogen previously unknown could arise [27]. In this perspective, the current Sars-CoV-2 can be classified both in the category of coronaviruses mentioned in the list and in the "disease X" category. At the moment, the concern shown by WHO takes on particularly relevant outlines, as, since then, there are no clear signs that the entity's appeal has reverberated among governments, research funding agencies, biotechnology companies, and the pharmaceutical industry.

Another aspect for the current situation, addressed by the panel of experts, is that *the Ebola crisis not only exposed the organizational failures in the functioning of WHO but also demonstrated limitations of the International Health Regulations* [30]. The report concludes that *WHO does not have the capacity or operational culture to provide a full public health emergency response* [31], and it is also clear that the agency suffers from a lack of political and financial commitment from its member states.

Experts point out that if the recommendations made in 2009 by the Review Committee on the H1N1 pandemic had been considered, the world would have faced the Ebola crisis in more appropriate conditions [28]. In other words, after almost two decades since the first Sars epidemic in 2003, passing through the H1N1 epidemic in 2009, Mers in 2012, and Ebola in 2013, we reached 2020 in a scenario that shows how governments have ignored the WHO alerts and the scientific community.

Surprisingly, the first time that the United Nations Security Council (UNSC) met to address a health problem was to discuss the Ebola epidemic in 2014 [32]. However, the expert panel report made it clear that this meeting could not substantially alter the tragic reality of the epidemic [28]. In its first declaration, the Council proposed to stop conflicts as a measure to help to combat Covid-19, but without getting involved in the discussion of the disease itself [33].

We cannot ignore WHO's performance and permanent presence, absolutely critical and committed throughout this crisis. However, it is essential to assess whether the agency has sufficient political support, financial and material resources, operational structure, and institutional/regulatory instruments to deal with the current challenge, which can only be confronted with commitment, unrestricted efforts and investment by the United Nations Security Council and General Assembly. In the case of Brazil, such considerations are especially important given the actions, positions, and manifestations of the country's government regarding the pandemic, which disagree or even oppose WHO recommendations, without any scientific or ethical basis.

Another aspect that prevails amid international efforts in search for a coronavirus vaccine is the big science model [34,35]. In it, the particular interest of nations, in line with those of biotechnology and medical companies – such as the partnership between the US government and one of the largest pharmaceutical companies

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in the world [36] –, ends up favoring isolated and independent efforts that concentrate knowledge and intellectual/industrial property, ultimately ensuring the geopolitical power over our future. Thus, at least in part, these issues may explain the unreasonable criticism of the United States government against WHO and its decision to withdraw political and financial support from the organization [37].

Although specific results in the search for a vaccine can be shared, and the human knowledge developed for future situations, this new knowledge will not be shared for free. Overcoming the current model of hermetic and protectionist science used by countries that centralize the development of fields such as biotechnology is a challenge that precedes Covid-19 and will remain after it. Facing it would allow us to combat future pandemics in a better situation than the current one.

This US government partnership with a major pharmaceutical company promises a vaccine to stop the virus, but before that, the Brazilian government adopted chloroquine and hydroxychloroquine, without considering any restrictions and risks posed by those substances. The current reality demands shared responsibility and cooperation among nations, and not isolated actions, or competing for resources and inputs, aiming only at the reestablishment of the market. Perhaps this is the time to think of alternatives to face up new challenges.

For instance, could the UN Security Council establish a global lockdown? Would this stop the pandemic more quickly and with less damage to the economy? Would the medium- and long-term residual effects be lower? Can we attenuate all the terrible consequences of a pandemic in future situations? Indeed, the actual scenario demands strategies and precaution, and not economic progress at all costs.

Conflict of values

Despite some divergences, most contemporary societies believe that a democratic system is essential to guarantee human rights and thus solve conflicts [38]. However, such understanding has been challenged by decisions taken during the Covid-19 pandemic, which trigger several conflicts related to the economic, political, and ideological dimensions of countries and communities.

In Brazil, the institutional and social environment is becoming more and more worrisome, with almost daily threats to democracy and a dangerous distance between government and population, and decisions without ethical grounds. Highly sensitive issues, such as environment, economy, social security and labor reform, indigenous peoples, human rights, and education, among others, are discussed simultaneously to the pandemic. This drives the focus away from the task of saving lives, dispersing efforts and budget, diverting the focus of public opinion, and preventing a minimum consensus on what is the biggest threat at the moment and how to face other issues.

In the current chaotic political system, two situations are clear: there is a deep ethical crisis that affects the country and prevents the control of Covid-19, and a political and economic agenda that disregards the effects of the pandemic in humanitarian terms. According to this agenda, whose success is also a tragedy, there are no ethical conflicts, only different priorities. Following this idea, it is not a matter of considering whether the virus will produce a deeper crisis in the economy, but a question of taking the opportunity to justify the current geopolitical and economic views.

Ethics is undermined by economic authoritarianism and political sectarianism, challenging life in the present and the future [4]. In this awful scenario, we need to think of an ethical imperative underlying modern and technological civilization, to actively maintain the human life survival on Earth. In this sense, such an ethical framework – in favor of the dignity of life – should prevail over the economic and political model.

Ethics in decision-making

The persistent (and false) dilemma between saving the economy or lives indicates not only differences in perspectives on how to tackle Covid-19, but also differences in values and ethical foundations. In health, equity is one of the most important criteria for defining urgent actions based on needs and to understand governmental measures for the most vulnerable groups. In more pragmatic terms, equity is essential for comparing, for example, the extent of emergency financial help in comparison with other resources from the public budget.

In Brazil, the temporary income support program for the most vulnerable during the pandemic – R$ 200/month per individual, as initially proposed by the Government but increased by the

National Congress to R$ 600 per month – was initially estimated in R$ 14.4 billion [39]. At the same time, of the federal budget for 2020, almost R$ 3.6 trillion [40], approximately 40% will be used to pay external debt services (interest and amortization) [41] – the external debt, without considering the internal debt, amounts to an unpayable sum of US$ 570 billion.

For instance, in 2019, R$ 1.037 trillion was paid, something around R$ 2.8 billion per day. Based on this data, the current temporary support for the most vulnerable could be covered with just five days of debt service payments. Even if the total volume of humanitarian aid reaches higher figures until the end of the pandemic, this increase will not change the context, logic, or politics regarding the public budget.

The priority given to the payment of foreign debt services is a common trait among underdeveloped or developing countries, referred by Jonas [4] as "the wretched of the Earth." A tragic effect of this scenario, as Velji and Bryant point out, is *the debt-death link: the higher the interest payment owing on a nation's debt, the lower the mean life expectancy of that nation's citizens* [42].

In this sense, particularly relevant to the current moment, Cardoso and collaborators emphasize equity in access to healthcare and the resources and means to protect people:

One factor is the speed with which events such as pandemics, with immediate impacts on people's lives and the economy of the countries, may increase its incidence. Less developed countries with large human populations living in precarious conditions do not have health systems capable of dealing with the significant impacts of these events. Even though governments may minimize the consequences of diseases, access to vaccines and other medicines is not guaranteed to countries with limited or nonexistent capacity for innovation and production, even if they can circumvent the restrictions posed by industrial property problems [43].

Although the virus does not distinguish wealth or social class, rich and the poor are not in the same situation, since they have different conditions and possibilities to face the pandemic. Some may remain isolated from the world, as if they were on private islands, for as long as necessary, while most citizens do not have a home to isolate themselves in, or even a room. While for many there are no beds in hospitals, a few may have private ICUs in their own residences.

Velji and Bryant's analysis is relevant for this point: *without a commitment to ethical principles – human rights and freedom, justice, fairness, equity – the weak, disadvantaged global citizen is denied access to education, housing, jobs, and food, and is placed in a lopsided struggle against the privileged citizen within a neoliberal, highly individualistic environment* [44]. This expanding gap between rich and poor in the world has several consequences, some of which, like the pandemic, seem to be inevitably tragic.

For instance, refugees expelled from their territories and excluded from any political or economic system, are at the mercy of humanitarian aid, which will probably arrive late, given the difficulties faced by all countries to overcome the pandemic in their own territory. In such situation, it is not a question of discussing the role of the State as a bridge between rich and poor – even though in the medium and long terms, this would be a matter of justice – but recognizing that it is the role of the State to ensure that such gap is not an advantage factor in an unequal struggle for survival.

Another aspect concerns public declarations and decisions taken by authorities in some countries to minimize the threat posed by the pandemic, disregarding recommendations for social isolation and denying the reality pointed out by scientists, health authorities, and WHO itself. Some authorities have reconsidered their positions, either because of the events, with hundreds of deaths every day, or the instinct for political survival. Others, such as the Brazilian government, insist on a "dangerous ignorance" as addressed by Potter [5], that is, an expression of modern totalitarianism disguised as a democracy, as described by Hannah Arendt [45].

This totalitarianism count on an army of Eichmanns and Goebbels (*hostile humani generis*) willing to only "do their duty" in "civic" acts and demonstrations, *panelaços* (pan-banging), social networks, and many other means provided by modern communication technology. Importantly, the actions of this army are always political and, as such, have purposes and consequences, and, for this very reason, can be thought in ethical terms. After all, as Arendt points out, *politics is not like the nursery; in politics obedience and support are the same* [46].

In any case, the lives saved or lost, whether by the actions or omission of those who govern or by the support they receive from citizens, should be considered in the balance of responsibilities of each

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one. This is one of those circumstances in which, as Jonas states, *we are constantly confronted with issues whose positive choice requires supreme wisdom – an impossible situation for man in general, because he does not possess that wisdom, and particular for contemporary man, because he denies the very existence of its object, namely, objective value and truth. We need wisdom most when believe in it least* [47].

Regarding "herd immunity," a few more considerations are needed. In Brazil, this debate seems to reveal public managers' intention to promote the large-scale spread of the virus. Among other factors, the deliberate adoption of such a policy seems to corroborate the absence of mass testing, the high underreporting rate, chronic delay in issuing test results, the inefficiency of systems for contact tracing, and the lack of articulation and integration between the federal government and State administrations. One of the most dramatic effects of this policy is the collapse of the health system and the complete depletion of resources for the care of critically ill patients, forcing health professionals to decide who will have access to ICU beds.

This ethical dilemma has been widely discussed, and some criteria have been proposed to decide who will have access to beds in case of lack of resources, since the principles that usually guide medical emergencies and the respective deontological codes are not completly capable of dealing with the situation caused by a pandemic [48-51]. But we must remember that this impasse originates from political and institutional decisions that directly affect and contribute to the severity and dissemination of Covid-19, with the effects of work overload on health professionals, who begin to experience a scenario of problems that could be avoided and tragic in terms of results.

Given the social instability of the current healthcare scenario, the absolute lack of short-term perspectives, and the present and future threats, there is only one option: to move forward. But which ways are the most effective? The choices made at the present will determine not only the number of lives saved, abandoned and sacrificed, but also the conditions to face other pandemics and collective tragedies. The threat of absolute chaos requires immediate actions – and who has that responsibility, based on what principles and on what grounds?

Final considerations

According to Jonas, in this scenario full of difficulties and uncertainties, *the dangers which threaten the quality of future life are in general the same as those which, magnified, threaten survival itself, and avoiding the ones is* fortiori *avoiding the others* [52]. Thus, *the gap between the ability to foretell and the power to act creates a novel moral problem. With the latter so superior to the former, recognition of ignorance becomes the obverse of the duty to know* [53]. This obligation is currently imposed on all governments and world leaders, and thus, the lack of humility necessary to listen and seek advice outside their limited circles of interest poses a problem.

Unfortunately, the politicians running Brazil have shown lack of both wisdom and competence. If the Council on the Future – institution responsible for reconciling science and politics, based on the understanding of "dangerous knowledge" –, proposed by Potter [5], is an alternative, or if, as Jonas [4] points out, humanity will have to take control of its destiny – which would mean renouncing its current way of existing to not have to renounce its own existence –, this situation is a pressing issue. As Jonas states, *this is the apocalyptic perspective calculably built into the structure of the present course of humanity. It must be understood that we are here confronted with a dialectic of power which can only be overcome by a further degree of power itself, not by a quietist renunciation of power* [54].

The challenge is making choices that will influence the future: to preserve humanity or to save the economy. This is not a decision similar to that of clinical bioethics, in which the basic virtue is not the prevention of risks, but the prudent assessment of benefits, obligations, and harms. In this conception, medical action is a duty, which in turn is not related to the future in a broad sense, but to the immediate future of human life, in the form of the best possible results for patients .

The perspective of clinical bioethics is very different from the precautionary approach, whose guiding principle – which Jonas [4] defines as "imperative of responsibility" – is a brake on human action given the foresight of damage that human impact can have not only on the current society but also to the interests and rights of all lives in the future.

From the perspective of the doctor-patient relationship, past and future are only elements of diagnosis and prognosis for the patient *in casu*. Despite the difficulties and challenges of each situation and the unique and immeasurable value of each life, ethics in these situations does not exceed the limit of the arbitration of the case, in the restricted space and time of its

occurrence – especially because the rule that saves one often sacrifices another. Despite the precautionary principle's role in individual health, it is not its main goal. But, in the context of the pandemic, this principle has another dimension.

Calendars delimit historical time, but changes in mentality are beyond boundaries that seek to predetermine the organization and celebration of cycles. However, political revolutions, scientific advances, and the organization of the current economic system induce collective behaviors (terrain where humanity moves unconsciously) and individual behaviors (a specific and alienated field of wide mobility). Thus, it is common for changes in mentality to be related to major events such as the Second World War, for example. The Covid-19 pandemic appears to be one of these cases, given its effects on the scientific field and its ability to shake the basis of mankind, exposing our vulnerabilities and the finitude of life.

It is a matter of deciding whether humanity will be saved according to principles, or only part of it, as a side effect of the ultimate goal of saving the economy – an abstraction of human needs controlled by selfishness. We have already created a Manhattan Project to produce weapons of mass destruction, but we still cannot come up with a solution for saving the world's population. Without honesty to perceive and admit our faults as a species, we will not correct them. We need to understand that it is not about saving humanity from a virus; in essence, it is about saving humanity from itself. Otherwise, we can only hope that compassion may compensate for our lack of wisdom.

References

1. Jonas H. O princípio responsabilidade: ensaio de uma ética para a civilização tecnológica. Rio de Janeiro: Contraponto; 2006. p. 350-1.
2. Nordling L. "A ticking time bomb": scientists worry about coronavirus spread in Africa. Science [Internet]. 2020 [acesso 4 jun 2020]. Disponível: https://bit.ly/3ik78n7
3. WHO coronavirus disease (Covid-19) dashboard. World Health Organization [Internet]. 2020 [acesso 4 nov 2020]. Disponível: https://covid19.who.int/
4. Jonas H. Op. cit.
5. Potter VR. Bioética: ponte para o futuro. São Paulo: Loyola; 2016.
6. Zhu N, Zhang D, Wang W, Li X, Yang B, Song J *et al*. A novel coronavirus from patients with pneumonia in China, 2019. N Engl J Med [Internet]. 2020 [acesso 4 jun 2020];382:727-33. DOI: 10.1056/NEJMoa2001017
7. Andersen KG, Rambaut A, Lipkin WI, Holmes EC, Garry RF. The proximal origin of Sars-CoV-2. Nat Med [Internet]. 2020 [acesso 4 jun 2020];26:450-2. Disponível: https://go.nature.com/3n9YX0k
8. Zhou P, Yang X-L, Wang X-G, Hu B, Zhang L, Zhang W *et al*. A pneumonia outbreak associated with a new coronavirus of probable bat origin. Nat [Internet]. 2020 [acesso 4 jun 2020];579:270-3. DOI: 10.1038/s41586-020-2012-7
9. Simmons G, Zmora P, Gierer S, Heurich A, Pöhlmann S. Proteolytic activation of the Sars-coronavirus spike protein: cutting enzymes at the cutting edge of antiviral research. Antiviral Res [Internet]. 2013 [acesso 4 jun 2020];100(3):605-14. DOI: 10.1016/j.antiviral.2013.09.028
10. Song W, Gui M, Wang X, Xiang Y. Cryo-EM structure of the Sars coronavirus spike glycoprotein in complex with its host cell receptor ACE2. PLoS Pathog [Internet]. 2018 [acesso 4 jun 2020];14(8):e1007236. DOI: 10.1371/journal.ppat.1007236
11. Coronaviridae Study Group of the International Committee on Taxonomy of Viruses. The species severe acute respiratory syndrome-related coronavirus: classifying 2019-nCoV and naming it Sars-CoV-2. Nat Microbiol [Internet]. 2020 [acesso 4 jun 2020];5:536-44. DOI: 10.1038/s41564-020-0695-z
12. Scripps Research Institute. Covid-19 coronavirus epidemic has a natural origin. ScienceDaily [Internet]. 2020 [acesso 4 jun 2020]. Disponível: https://bit.ly/3jpWqg8
13. Cui J, Li F, Shi Z-L. Origin and evolution of pathogenic coronaviruses. Nat Rev Microbiol [Internet]. 2019 [acesso 4 jun 2020];17:181-92. DOI: 10.1038/s41579-018-0118-9
14. Kupferschmidt K. Genome analyses help track coronavirus' moves. Science [Internet]. 2020 [acesso 4 jun 2020];367(6483):1176-7. DOI: 10.1126/science.367.6483.1176
15. Evans SW, Beal J, Berger K, Bleijs DA, Cagnetti A, Ceroni F *et al*. Embrace experimentation in biosecurity governance. Science [Internet]. 2020 [acesso 4 jun 2020];368(6487):138-40. DOI: 10.1126/science.aba2932
16. Service RF. NAS letter suggests 'normal breathing' can expel coronavirus. Science [Internet]. 2020 [acesso 4 jun 2020];368(6487):119. DOI: 10.1126/science.368.6487.119
17. Saplakoglu Y. Here's a look at the coronavirus's complicated journey through the body. Live Science [Internet]. 2020 [acesso 4 jun 2020]. Disponível: https://bit.ly/2Sd8zsW

18. Wadman M, Couzin-Frankel J, Kaiser J, Matacic C. How does coronavirus kill? Clinicians trace a ferocious rampage through the body, from brain to toes. Science [Internet]. 2020 [acesso 20 abr 2020]. Disponível: https://bit.ly/30oPXuh
19. Servick K. For survivors of severe Covid-19, beating the virus is just the beginning. Science [Internet]. 2020 [acesso 10 abr 2020]. Disponível: https://bit.ly/30krMNN
20. Servick K. Op. cit. § 7. Tradução livre.
21. Layne SP, Hyman JM, Morens DM, Taubenberger JK. New coronavirus outbreak: framing questions for pandemic prevention. Sci Transl Med [Internet]. 2020 [acesso 10 abr 2020];12(534):eabb1469. DOI: 10.1126/scitranslmed.abb1469
22. Saplakoglu Y. Asymptomatic people may be fueling the coronavirus spread. Live Science [Internet]. 2020 [acesso 6 abr 2020]. Disponível: https://bit.ly/34f0lpM
23. Lanese N. World coronavirus cases pass 1 million mark. Live Science [Internet]. 2020 [acesso 2 abr 2020]. Disponível: https://bit.ly/2HOtiRS
24. World Health Organization. Coronavirus disease 2019 (Covid-19): situation report 182 [Internet]. 2020 [acesso 1º out 2020]. Disponível: https://bit.ly/33kw7m3
25. Barros MPS. Caracterização genética de cepas de Yersinia pestis [tese] [Internet]. Recife: Universidade Federal de Pernambuco; 2012 [acesso 1º out 2020]. Disponível: https://bit.ly/3joSBbc
26. Barros MPS. Op. cit. p. 38-9.
27. OMS divulga lista de doenças e patógenos prioritários para pesquisa e desenvolvimento em 2018. Organização Pan-Americana de Saúde Brasil [Internet]. 2018 [acesso 26 fev 2020]. Disponível: https://bit.ly/34k5htm
28. World Health Organization. Report of the Ebola Interim Assessment Panel [Internet]. Geneva: World Health Organization; 2015 [acesso 26 fev 2020]. Disponível: https://bit.ly/349ft7S
29. World Health Organization. WHO Secretariat response to the Report of the Ebola Interim Assessment Panel [Internet]. Geneva: World Health Organization; 2015 [acesso 26 fev 2020]. Disponível: https://bit.ly/3nNgg7A
30. World Health Organization. Report of the Ebola Interim Assessment Panel. Op. cit. p. 5. Tradução livre.
31. World Health Organization. Report of the Ebola Interim Assessment Panel. Op. cit. p. 6. Tradução livre.
32. Ebola: ONU declara que surto "sem precedentes" é uma ameaça à paz e à segurança internacionais. Nações Unidas Brasil [Internet]. 2014 [acesso 26 fev 2020]. Disponível: https://bit.ly/31twLMN
33. Conselho de Segurança debate implementação de resolução sobre covid-19 e conflitos. ONU News [Internet]. Saúde; 9 set 2020 [acesso 30 nov 2020]. Disponível: https://bit.ly/37o0J6O
34. Leite M. Retórica determinista no genoma humano. Sci Stud [Internet]. 2006 [acesso 26 fev 2020];4(3):421-52. DOI: 10.1590/S1678-31662006000300005
35. Frazier ME, Johnson GM, Thomassen DG, Oliver CE, Patrinos A. Realizing the potential of the genome revolution: the Genomes to Life program. Science [Internet]. 2003 [acesso 26 fev 2020];300(5617):290-3. DOI: 10.1126/science.1084566
36. Cohen J. The $1 billion bet: pharma giant and U.S. government team up in all-out coronavirus vaccine push. Science [Internet]. 2020 [acesso 1º out 2020]. Disponível: https://bit.ly/2SeLtlt
37. Holland S, Nichols M. Trump anuncia rompimento dos Estados Unidos com a OMS. Agência Brasil Reuters [Internet]. Internacional; 29 maio 2020 [acesso 4 nov 2020]. Disponível: https://bit.ly/2HRqTGj
38. Bobbio N, Bovero M. Sociedade e Estado na política moderna. 4ª ed. São Paulo: Brasiliense; 1986.
39. Piovesan E, Moraes G. Câmara aprova auxílio de R$ 600 para pessoas de baixa renda durante epidemia. Agência Câmara dos Deputados [Internet]. 2020 [acesso 1º maio 2020]. Disponível: https://bit.ly/3nbVTAD
40. Congresso aprova orçamento da União para 2020. Senado Notícias [Internet]. 2019 [acesso 1º maio 2020]. Disponível: https://bit.ly/2SeNvlB
41. Auditoria Cidadã da Dívida [Internet]. Brasília, 2020 [acesso 1º maio 2020]. Disponível: https://bit.ly/33keyCw
42. Velji A, Bryant JH. Ética na saúde global. In: Markle WH, Fisher MA, Smego RA Jr. Compreendendo a saúde global. 2ª ed. Porto Alegre: AMGH; 2015. p. 520-46. p. 529.
43. Cardoso TAO, Navarro MBMA, Soares BEC, Tapajós AM. Biosseguridade e biossegurança: aplicabilidades da segurança biológica. Interciencia [Internet]. 2008 [acesso 1º maio 2020];33(8):561-8. p. 567. Disponível: https://bit.ly/3j5hsQa
44. Velji A, Bryant JH. Op. cit. p. 523.
45. Arendt H. Eichmann em Jerusalém: um relato sobre a banalidade do mal. São Paulo: Companhia das Letras; 1999.
46. Arendt H. Op. cit. p. 302.
47. Jonas H. Op. cit. p. 63.
48. Vergaro M, Bertolini G, Giannini A, Gristina GR, Livigni S, Mistraletti G *et al*. Clinical ethics recommendations for the allocation of intensive care treatments in exceptional, resource-limited circumstances: the Italian perspective during the Covid-19 epidemic. Crit Care [Internet]. 2020 [acesso 20 abr 2020]:165. Disponível: https://bit.ly/33kl8sI
49. Barifouse R. Coronavírus: médicos podem ter de fazer "escolha de Sofia" por quem vai viver na Itália. BBC News Brasil [Internet]. 2020 [acesso 20 abr 2020]. Disponível: https://bbc.in/3n93rEp

50. Debert GG, Félix J. Dilema ético, os idosos e a metáfora da guerra. Folha de S.Paulo [Internet]. 2020 [acesso 19 abr 2020]. Disponível: https://bit.ly/2SiKKzK
51. Emanuel EJ, Persad G, Upshur R, Thome B, Parker M, Glickman A *et al*. Fair allocation of scarce medical resources in the time of Covid-19. N Engl J Med [Internet]. 2020 [acesso 1º out 2020];382(21):2049-55. DOI: 10.1056/NEJMsb2005114
52. Jonas H. Op. cit. p. 91.
53. Jonas H. Op. cit. p. 41.
54. Jonas H. Op. cit. p. 236.

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Norton Nohama conceived the study and wrote the article. Jefferson Soares da Silva and Daiane Priscila Simão-Silva contributed to the discussion and critical analysis of the text and worked on the final review.

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