

# The health crisis (covid-19) in the world: impacts on governance systems and societal behavior

## Summary

The health crisis that the world is going through will have a very profound impact on societies and States. At present, it is impossible to predict a date for the end of the crisis. But there will be, without doubt, a before and an after; an afterwards so different from the before because the crisis will have exposed the underside of the relations strategies between the rulers; it will have revealed the courage of some in the endless fight against the virus (health bodies, of course, but also all the others who count neither their time nor the risk in the face of the virus. This unexpected crisis, although predictable because the world has known other health crises, will have revealed, even in technologically advanced countries, the deficiencies and weaknesses of governance systems. According to Abdellaoui<sup>1</sup> She will have revealed in broad daylight the self-centered behaviors of some and the (almost spontaneous) solidarity of others, the very ones we least expected on these occasions because forgotten or considered as part of the inability to come to the aid of the Great Nations of this World. This crisis will undoubtedly also have awakened the latent conflict of the superpowers and the division of the world into three distinct blocks: a) the powerful who base their strategies on self-strengthening (three attitudes of withdrawal: i. Make America great again, a slogan that continues in another way with the new president; ii. the united kingdom for vaccines; iii. us first in Western Europe), b) the powerful who base their strategies on their influence on the spaces to conquer, and c) the Others, all the others who emerge, who try to make a place for themselves (the UAE who try to place themselves in the conquest of space for example), to obtain a voice (or a way), but also those who struggle in the vagaries of development and “emancipation” that they fear while hoping for; all those Others who did not believe in the pandemic or saw it as an invention to control social movements. But this crisis will also have shown, very fortunately, the strength of dedication and individual and collective abnegation of those who fight evil, day and night, by exposing themselves and without counting their time.

The covid 19 pandemic is not, however, the first to hit the world. There have been many more as deadly, if not more; the bubonic plague which reappeared in 1320 in Mongolia, however, remained endemic in the East, India and China. It appeared in the West in 1347, brought in by Genoese sailors fleeing Caffa, and caused the deaths of 25 to 40 million Europeans. Remember that Caffa was a Genoese city at the ends of Europe at the end of the 15th century.

This work recalls the major global health crises and their consequences on societal changes. We try to ask angry questions and sometimes get answers to them.

**Keywords:** global health crises, corona virus, governance strategies

## Introduction

As everyone knows, the health crisis that the world is going through will have a very profound impact on societies and States. Although it is currently impossible to predict a date for the end of the crisis, there will undoubtedly be a before and after; an afterwards so different from the before because the crisis will have exposed the underside of the relations strategies between the rulers; it will have shown the courage of some in the endless fight against the virus (health bodies until their moral and physical exhaustion, but also all others who count neither their time nor the risk in the face of the virus. There will, of course, be a before and after the crisis because Humanity has known so many other crises (health, economic, conflict) from which it has emerged after many losses and pains; the examples are so numerous: the Spanish flu, with a particularly deadly virus, which was grafted on the First World War, the great economic depression of 1929 in the USA which spread over the world over the 1930s, the Antonine plague

which struck the Roman Empire at the end of the Antonine dynasty, the plague of Athens which ravaged Greece from 430 to 426 BC. AD, the bubonic plague which reappeared in 1320 in Mongolia and appeared in the West in 1347 brought by Genoese sailors and killing 25 to 40 million Europeans, cholera, typhus, tuberculosis, AIDS which continues to rage in the world in all latitudes without radical treatment; of all these health crises, the oldest and the most appalling seems to be the so-called Justinian plague which raged in Eurasia from 541 to; it had been spotted for the first time in the Mediterranean basin in 541-542 where it would have made 10,000 deaths per day.

The current pandemic, certainly unexpected (we expected more a Third World War than a pandemic) and yet predictable (due in particular to: undeclared scientific work in laboratories bound by defense secrets, research for weapons deterrence, genetic manipulation of all kinds), will have exposed, even in technologically advanced countries, the deficiencies and weaknesses of governance systems ; the health

systems, despite numerous alerts, were not sufficiently prepared to properly deal with such a crisis (let us remember that scientists had warned long before the spread of the virus of the presence of a "health anomaly"; they had not been taken seriously); it confronted governments with difficult and painful choices: i) the choice of people to take care of (the elderly or the young; the more or less affected or sick) and ii) the choice between the health of the populations and the saving the economy. These choices led to hesitation and clumsiness which generated citizens' mistrust of their system of governance, even of their scientists (remember the controversy over the work and the treatment proposed by Professor Raoult in Marseille, France. It will have revealed in broad daylight the self-centered behaviors of some and the (almost spontaneous) solidarity of others, the very ones we least expected on these occasions because they were forgotten or considered unable to come to the aid of others. Great Nations of this World. She will have updated the true relations between Nations and States by reminding us of the old saying: every man for himself and God for all, an old saying which had been arranged on the occasion to become "every man for himself and me on board". It allowed us to question whether there really is friendship in the relations between Nations or if, on the contrary, everything is built on interest.

This crisis will undoubtedly also have awakened the latent conflict of the superpowers and the division of the world into three distinct blocks:

- a) the powerfuls who base their strategies on self-strengthening (three attitudes of withdrawal: **i**) make America great again, a slogan that continues in another way with the new president; **ii**) Vaccines for our citizens first in the UK; **iii**) we first in Western Europe),
- b) the powerfuls who base their strategies on their influence on the spaces to be conquered,
- c) the Others, all the others who are emerging, who are trying to find a place for themselves (the UAE who are trying to place themselves in the conquest of space for example to try to have a voice and a place beyond the scientific experience spatial in itself), to obtain a voice (or a way), but also those who struggle in the vagaries of development and "emancipation" that they fear while hoping for it; all those Others who did not believe in the pandemic or considered it as an invention to control social movements but who were forced to face the facts after the illness and the deaths of their relatives or friends.

But this crisis will also have shown, very fortunately, the strength of dedication and individual and collective abnegation of those who fight evil, day and night, by silently exposing themselves to danger for themselves and their families. ; we should also note the courage and work of those who continue to collect our garbage, clean our hospitals, distribute our mail to us, and provide us with all the products essential to our life and our health. This crisis also made us vibrate with the many initiatives of solidarity and human ingenuity to find solutions to contribute to the fight: from the applause to health personnel, to the preparation and delivery of meals to people who have them, through all the innovative ideas to create and produce the many tools of struggle.

With the establishment of containment systems, populations were confronted with evils of a new kind or of accentuated impact: confrontation with loneliness, unbearable inaction, loss of employment and ordinary leisure activities, emotional emptiness and emotional deprivation; young people, used to living in groups, have suffered so much from confinement; students in particular were particularly

affected, for their courses, for their internships, for their jobs whose loss no longer allowed them to pay their rents or even their meals; the elderly cope better with the passage of time identical to itself, the young do not yet have this patience and are severely affected.

Economic systems are severely impacted all over the world:

- i) Technologically advanced countries have had to resort to printing presses and loans from banks to replenish shortfalls in households, businesses and businesses;
- ii) The countries which relied on oil rents must have seen with dismay the fall in the price of a barrel of oil and, consequently, of their resources and their foreign exchange reserves; **iii**) the poorest must have seen the infernal descent of their societies from poverty to pronounced and total destitution.

At first, the masks appeared, as a bulwark against the still little known virus; but the competitive strategies and the various subterfuges for obtaining these masks produced in insufficient quantities for the whole world community have exposed the turpitudes of some and the misfortune of others. Later, the announcement of "angel" vaccines popped up, for a moment, like a deliverance; but two aspects brought to light a deep disappointment, an understanding concern and a justified mistrust: **a**) vaccines are made by the powerful and, without it being said officially, for the powerful of this world, **b**) the hesitations of the systems governance in strategies to fight the virus and unacknowledged conflicts of interest have generated mistrust among companies: loss of confidence in government officials, mistrust of taking a type of vaccine imposed by the shortage. Everywhere the Other has gradually faded behind the Ego; global interest has collapsed under national interest.

The present work, without claiming to find an answer to all the questions, oh so difficult, tries at least to question us if the health crisis which currently strikes the world will not bring, in compensation perhaps, the profound change in the relations between nations.

### The reaction of governance systems

**When masks appear:** In China, mask factories are growing like mushrooms: at the height of the crisis in China in early February, Guan Xunze built a factory in 11 days to produce N95 masks, which can protect the wearer from contamination... Manufacturers like him are legion: during the first two months of 2020, China recorded... 8,950 new mask producers on its territory. To meet the increased demand, thousands of companies have multiplied production lines. In total, more than 76,000 masks producing companies have been identified across the country, including many small profucers from the textile industry. We can thus see the Chinese offensive in the production of masks and, by way of consequences, the inevitable dependence on other countries, especially developed ones, if measures are not taken quickly. Very quickly, the demand for masks became greater than the supply. After that, we began to attend auctions, however, to benefit from these tools then planned as the miracle screen for the virus and its spread; some buyers offer more attractive prices to divert stocks to their advantage. The poor are forgotten, the riches try to organize themselves to produce their masks for their own consumption. However, many have warned of the need to retain the means to fight against viruses of all kinds; for this purpose, we cannot ignore the report n ° 2327 registered at the Presidency of the National Assembly on May 11, 2005 on epidemic risks (<http://www.senat.fr/rap/r04-332-1/r04-332-11.html>); we read in particular : « The epidemic risk remains a major public health problem on a global scale: infectious diseases are responsible for a third of the mortality observed annually

... At the end of the 1970s, many officials were convinced of the disappearance of infectious diseases in the developed countries of the North to such an extent that the Assistance Publique-Hôpitaux de Paris was wondering about the closure of infectious disease beds. The largest French pharmaceutical laboratory, moreover, closed its anti-virals department around 1983... These examples show how crucial epidemiological surveillance of infectious diseases is... But it is also essential to develop European and intercontinental coordination ».

### **Manufacture of vaccines: vaccines are produced by rich and technologically advanced countries: USA, UK, China, Russia**

**Who proposes to manufacture vaccines:** As of November 12, 2020, there were a total of 212 Covid-19 vaccine projects tested or experienced around the world, according to the "panorama" published by the World Health Organization. 164 of them were in the pre-clinical phase, that is to say tested on animals or in the laboratory and 48 in the clinical phase: tested on human populations ... Of the latter, only 11 projects had reached the traditional "phase III" of the experiment: an evaluation on populations of more than 10,000 people and two of them announced preliminary results which would guarantee vaccine effectiveness to more than 90%: the German BioNTech, allied with the American giant Pfizer on the one hand, the American Moderna on the other both based on an entirely innovative technique, involving messenger RNA. Table 1 shows who produce vaccine as of march 3, 2021.

Moderna therefore teamed up with the Swiss Lonza; the vaccine will be produced on the American rights of way of the two companies (Massachusetts and New Hampshire) but also in Visp, in Swiss Valais. Moderna has also partnered with the American Catalent (and its plant in Bloomington, Nevada) as well as with the Spaniard Rovi, based near Madrid, for the packaging of the said vaccines, which will therefore be manufactured, for part, in Europe. Moderna hopes to be able to produce between 500million and 1billion annual doses from 2021. Its vaccine to be administered in double dose 28 days apart, it can therefore only reach 500 million people at best: a "clientele" mainly American and European.

For Pfizer: Europe, for its part, should be served by the Belgian factory of Pfizer in Puurs, near Antwerp as well as by the production unit of its German partner BioNTech, recently acquired in Marburg near Frankfurt. The French Delpharm should be partly associated with the European production of the vaccine at its plant in Saint-Rémy-sur-Avre in Eure-et-Loire. In total, Pfizer and its associates say they are capable of producing 1.3 billion doses in 2021 ... At the rate of two doses per vaccination, as for the Moderna vaccine, this therefore represents 700 million possible vaccinations, at best, between North America and Europe.

In France, according to the review "L'Usine Nouvelle" of February 3, 2021 (<https://www.usinenouvelle.com/article/made-in-france-voici-la-carte-des-usines-qui-produire-vaccines-anti-covid-N1056744>): Several French subcontractors, such as Delpharm, Recipharm and Fareva, and some historical producers such as GSK and Sanofi have started or are soon starting production of vaccines against Covid-19 on French territory. Here, exclusively, all the sites concerned. Table 2 shows us that as of March 3, 2021, the number of vaccines produced is still insufficient for the populations of developed countries and so much lower than the world population!

**Who use vaccines:** According to T. Gaudiaut<sup>2</sup> in the journal statistica of March 21, 2021: « To date, more than 540 million doses of anti-Covid-19 vaccines have been administered worldwide,

or approximately 7 doses per 100 people, but the progress of the campaigns remains very variable depending on the country. There are now 10 vaccines in use worldwide, including only one single dose, the one recently deployed by Johnson & Johnson. This vaccine is currently used in the United States and South Africa, and will soon be in the European Union, which has already ordered 200 million doses ».

As shown in Table 2, the Oxford-AstraZeneca vaccine is currently the most widely used in the world. The author adds: « As of March 28, 92 countries across five continents were administering this vaccine despite its rather chaotic journey. Two weeks ago, it was temporarily suspended in France and several other countries due to suspected side effects. Last Friday, the National Medicines Safety Agency confirmed the existence of a "rare" risk of atypical thrombosis associated with this vaccine, while stressing that its benefit / risk balance remained "favorable" ».

Reading Table 2 tells us that among the other most used Covid-19 vaccines, we find in second place that of Pfizer-BioNTech (80 countries), then that of Moderna (34 countries). Elsewhere, the Chinese vaccines Sinovac and Sinopharm are administered respectively by 21 and 14 countries, mainly in Asia and South America, while Sputnik V (Russia) is used by 20 countries, including Hungary, despite the absence for the timing of EU-wide authorization.

**Vaccination campaigns:** In Europe, the date of vaccination has been set for December 27, 2020. The United Kingdom began its campaign on December 8, 2019 to show its difference. In many countries, such as France or Germany, many voices were raised against a start that was deemed too slow. As of April 12, 2021, more than 95 million doses (first and second cumulative) of Covid-19 vaccines have been administrated across the European Union. Germany has vaccinated 7.1% of its population, Spain is at 7.9% and Italy at 7.8%. France progress with 7% (3,687,416 second injections carried out).

Figure (1) produced by Abdellaoui, A. from data collected on various information documents, in particular the Sortiraparis site (publication of April 14, 2021 and consulted on April 15) shows us that the vaccination rate for the countries technologically advanced generally exceed 10% and can be around 50% (case of the United Kingdom) or 40% (case of the USA). Elsewhere (Canada and Europe), this percentage is currently between 10 and 20%. Beyond commercial failures, logistical problems also hampered the mechanics of the European vaccine strategy.

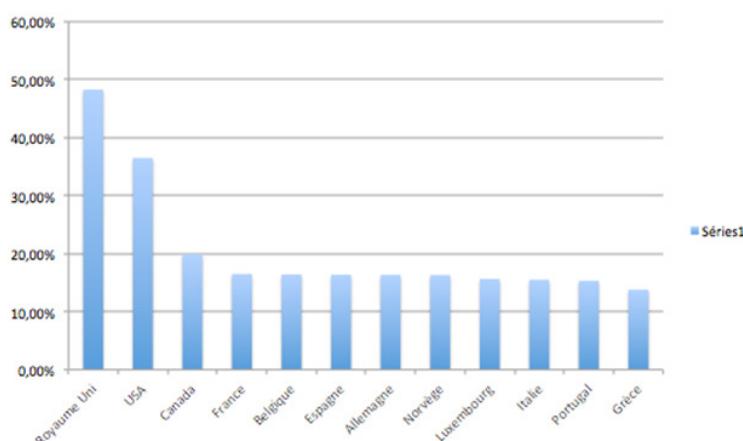
**In South America,** the scandals sparked by revelations of "vaccine passes" are increasing, splashing politicians and their families, businessmen, and even dignitaries of the Catholic Church, suspected of having done so to assert their position or their relationships to play with the priority criteria defined by the States, in a context of scarcity. Latin America, for its part, is now threatened by the backlog of vaccination campaigns. Between political conflicts and delays in deliveries, vaccination campaigns got off to a chaotic start. Brazil starts its campaign at the end of January, 2021. The pace is still too low even for the most advanced. At this rate, it would take Brazil 2.5 years to vaccinate 75% of its population, 3.6 years in Mexico and more than ten years in Argentina.

Figure (2) shows a sample of countries in the region; the vaccination rate on April 14, 2021 is between 2 and a little over 10%; this is a relatively low rate compared to North America and Europe.

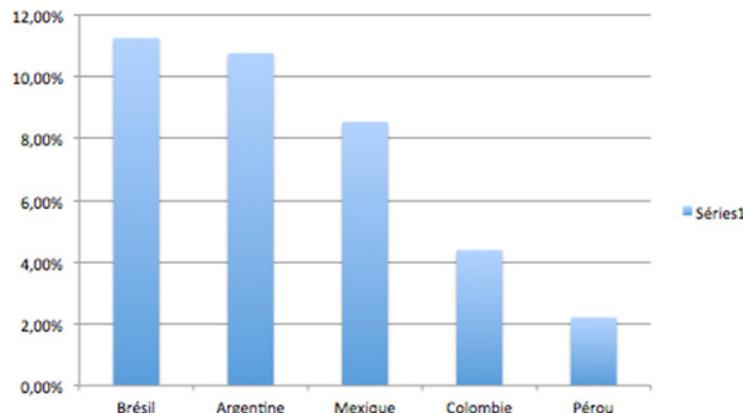
**In Africa:** The vaccination rate in Africa is still very low as of April 14, 2021. The reasons are many: the difficulty of obtaining vaccines monopolized by the rich and technologically advanced

countries, economic situations, politico-social situations and the existence of areas of conflict and insecurity are the main handicaps. Figure (3) shows us that the vaccination rate in Africa is still very low on April 14, 2021; it is between 0.5 and a little more than 2%. The reasons are many: the difficulty of obtaining vaccines monopolized by the rich and technologically advanced countries, economic situations, politico-social situations and the existence of areas of conflict and insecurity are the main handicaps. On the France24 site published on April 12, 2021 and consulted on April 14, 2021, we can read: "The situation of access to vaccines on the African continent has become practically untenable", warned on France 24 the person in charge of the program of Immunization and vaccine development for the World Health Organization (WHO) in Africa. He adds : « Africa represents

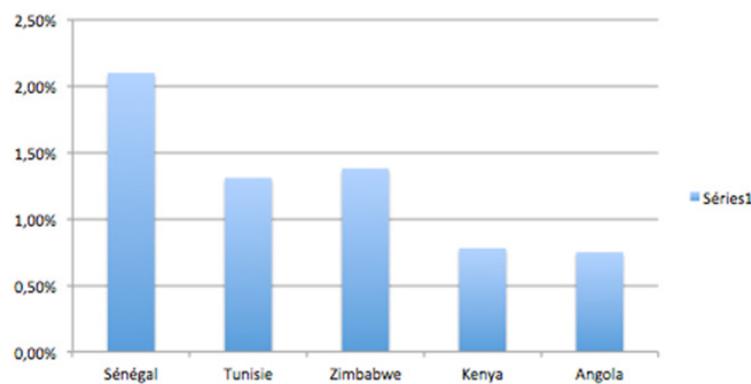
16% of the world's population, but only 0.1% of vaccines are produced on the continent in routine vaccination [Covid and non-Covid] ». The slowness of the vaccination campaign is explained by "problems of shortage, financing, a lack of qualified personnel", as well as logistical problems. The delivery of vaccines to the populations also comes up against "problems of transport and the cold chain", and sometimes a "waste" of doses, noted the director of Unicef (United Nations Fund for 'childhood) for East and Southern Africa. Alongside these individual steps, WHO has launched the Covax scheme, which commits rich countries to providing free vaccines to developing countries. Some 600 million doses are expected to arrive during the year 2021, enough to immunize 20% of Africans. This device started in Côte d'Ivoire, with a first batch of half a million doses of AstraZeneca vaccine.



**Figure 1** Vaccination Status in Europe April 14, 2021.



**Figure 2** Vaccination Status in South America April 14, 2021.



**Figure 3** Vaccination status in Africa April 14, 2021.

## The Covid-19 pandemic: its consequences

**In Europe**, the development of the pandemic and the rise of covid variants are forcing Europe to reconfigure itself and lose hope of economic recovery in 2021. The euro zone has seen its growth fall by around 6.8% in 2020 despite the efforts and the fierce struggle of institutions, in particular support for households and businesses as well as operations to safeguard employment. Central banks, for their part, have eased their monetary policies in order to favor credit to the economy and thus avoid disruption in the financial markets.

**Sub-Saharan Africa** has not recorded coronavirus infection rates as high as in Europe, for example, or even in North Africa; however the economic consequences were very severe in an already vulnerable environment. The pandemic is said to have had a major impact on livelihoods, food security and human capital. Job losses are massive, especially in urban areas, and many family businesses have had to close permanently (almost one in three businesses). Income has sometimes fallen by more than 70% for family businesses in Gabon, Malawi, Uganda, Mali only for this few examples. The economic and financial horizon is dramatically darkening for Africa as the planet's massive investments in response to Covid-19 could jeopardize many of the economic advances made over the past decade. The continent is at risk of experiencing its first recession in 25 years, some observers believe. The slowdown in world production has generated a drop in demand for raw materials and a fall in the price of a barrel of oil (more than 50%) and most minerals impacting on the trade balances of the States.

From the document published on May 7, 2020 under the responsibility of the Secretary General of the OECD, we will retain the following three important points: i) Africa faces a dual health and economic crisis that threatens to overwhelm health systems, destroy livelihoods and slow the region's growth prospects for years to come. The current crisis could wipe out years of development progress ; ii) The COVID-19 pandemic will severely disrupt financing for development in Africa, regardless of the source ; iii) Africa is facing a double shock of supply and demand.

Containment certainly makes it possible to significantly reduce contacts and, as a direct consequence, the spread of the coronavirus. However, they have a significant impact on mental health, but also physical health although we talk less about them, in particular because of: i) the decrease in physical activity (we walk less and we no longer do activities), ii) boredom and the increased stress it generates, iii) feelings of frustration and loss of freedom. In "poor" countries, the impact is even stronger and pushes people further down a spiral of poverty.

All over the world, a surge of individual or collective solidarity and spontaneous generosity has taken place. We will point out both awareness of the dangerousness of the pandemic situation, mobilization of clean-up campaigns, aid to people in difficulty. Many initiatives have been launched everywhere in almost all countries by people alone, groups of friends or associations: i) collecting food products for families affected by the slowdown in economic activity, ii) manufacturing means of protection for the nursing staff, iii) production of meals for hospitals, iv) creation of awareness-raising spots, etc. Youth have played a major role in these actions. But the less young have also contributed by initiating, according to their means, specific actions. This is the case of this 49-year-old man from Béjaïa (Algeria) owner of a village hall who offered to host homeless people there; he was therefore at his home, self-confined, when he wrote his very first post on Facebook, on March 22, "I offered to make my room available to the homeless" and the project immediately attracted the

membership: individual, collective and public mobilizations. This case is not unique, it is found everywhere among the poor and the rich, the developed and those who are in the process of being.

Many research works seem interesting: i) Mboua (2021) affirm: « The results concerning health personnel in Cameroon show a high rate of anxiety (41.8%) and depression (42, 8%). There is a higher susceptibility to depression in young subjects (30-39 years) », ii) ElHage et al. (2020), confirm that : The characteristics of this pandemic (speed of dissemination, uncertain knowledge, severity, deaths of caregivers) have created a climate of anxiety ». iii) Tagne Rossi et al. (2021) tell us: « We have found it wise to take an interest in the risk perception, emotional intelligence and psychological health of caregivers in relation to this dreadful pandemic ». These three studies concern health personnel; we were unable to find studies for other categories of populations. But it seems obvious that young people have suffered enormously from the confinements.

## Discussion

We have discussed at length the confreration of man to health risks of bacterial or viral origin: plagues that have left sequelae in the collective memory, crises of viral origin which have sometimes passed without unduly worrying but which have had an impact. Crisis management strategies. We have also developed the current pandemic situation and its impacts on health, on the economy, on governance systems, on supposed or institutionalized alliances. We are going to examine à few more points which seem to us to be of particular importance.

The pandemic has caused so many deaths around the world and caused so much grief. Statistics tell us that as of April 14, 2021, there have been 3 million deaths worldwide since the start of the pandemic. The effects on mental health are difficult to follow and quantify and also to detect because not all people with the disease talk about them. Young people and adolescents, used to moving, living and caring in groups and in open spaces, are the most affected; they do not cope with confinement, forcing them to stay at home or in their dorm room. Virtual courses increase school and university dropout.

We have shown that the pandemic has dramatically altered the relationships between governance systems; the case of the countries of the European Union is significant: a slow construction and an almost immediate questioning of the principle of construction of the European Union; this is dictated by the subclause of precaution and guarantee of health for fellow citizens. Some countries outside the European Union have not hesitated to declare the principle of "me first" for masks and also and especially for vaccines. We insisted on the fact of the forgotten people, the populations of the "third world"; this had already been mentioned in other work on social inequalities.<sup>1</sup>

The current health crisis is everyone's business, whatever our skin or hair color, whatever our deep convictions, whatever our language, whatever our history. It is not imaginable to get out of this without imagining a global strategy, a global strategy for the fight because the coronavirus knows no borders (political, linguistic, geographic, convictional); he neither distinguishes between rich and poor, nor between intellectual or illiterate, nor between connected or not connected, nor between believer or non-believer, nor between young and old; he takes those he meets and settles in permanently.<sup>3-19</sup>

We have shown that the pandemic has dramatically altered the relationships between governance systems; the case of the countries of the European Union is significant: a slow construction and an almost immediate undermining of the very principle of this grandiose

project dictated by the subclause of precaution and guarantee of health for fellow citizens; a challenge made concrete by the unilateral establishment of various travel constraints between the countries of the Union: PCR tests for example. Some countries outside the European Union have not hesitated to declare the principle of "month first" for masks and also and especially for vaccines.

## Conclusion

Plagues or diseases of viral origin can reappear at any time; prevention and control services must remain vigilant and put in reserve the tools and means of prevention and control. The strategies for triggering alerts must always be available. For plagues, the vector of transmission (the rat) resumes its appearance in urban areas: i) the descent into extreme poverty (even in advanced countries) facilitates the greater deposit of waste and especially the scattering of waste and therefore the significant increase in risks (proliferation of rats, environmental pollution); ii) the new system of common trash cans, the opening of which is subject to a digital card, shows many trash bags abandoned in front of the containers and rats around these bags. It will therefore be necessary to find an adequate solution to these two problems which seem to be ignored by the local health services. Let us point out here the crucial dilemma which governors are confronted with concerning the choices to be privileged: the health of the population or that of the economy: a) the health of the population inevitably leads to severe measures of containment and closure of businesses and industry. This penalizes growth and the economy in general, but also influences the (psychological) health of citizens, especially young people; b) favoring the health of the economy will necessarily require restricting (or at least reducing) safety and health risk measures; the virus will spread more. The question is whether it is possible to find an intermediate solution.

We have shown throughout this text that the world is going through a crisis reminiscent of wars and which could plunge it into a situation of both economic and societal regression, a situation of profound technological and industrial changes where the best and the worst will come together.

We have also shown that this crisis will have unveiled outbursts of solidarity and generosity that are difficult to imagine because of their spontaneity and their scale everywhere in the world. But we also put the accent on the blunders in the actions of the systems of governance and in particular in the information of the citizen. In France, for example (and this is probably the case in other countries), an effort to disseminate information and make decisions transparent had been put in place; politicians had often intervened to inform about the evolution of the health situation and the decisions taken on the basis of these developments and the media had imagined platforms for discussion; but some hesitations failed to reassure the citizen generating mistrust in the system of governance and also in scientists. The cacophony between states has accentuated this mistrust; restoring trust between governance systems, scientists and populations will not be easy.

To conclude, it seems to us that it is time and necessary for the rulers of the planet to think about another equation of management of the world and of the relations between one and the other. It seems essential to us to think seriously in order to imagine another equation introducing the concertation and the abandonment of the idea that the world is thus made of two classes: those who must lead and those who must perform, those who must produce and those who must consume, those who have the ideas and those who have the resources to be exploited; another relationship management equation in which each citizen of the world is seen as belonging to a larger, more equitable... more human group.

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## Conflicts of interest

Author declares there are no conflicts of interest.

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