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Has the COVID-19 crisis changed our relationship to the future?

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Abstract

The first wave of the COVID-19 pandemic crisis introduced a sudden discontinuity into the functioning of human societies worldwide by affecting individual habits as well as economic and social life. This paper is a first attempt to investigate whether that discontinuity also altered our relationship to the future, in particular through the production of scenarios of a "world after" significantly different from the world before. We analyzed the representations of the future produced at the height of the first wave of the crisis, between March and June 2020, through a selective review of these productions. From the 60 sources found, we selected 23 texts yielding 83 scenarios. We used a classic four-category typology (Continued Growth, Discipline, Collapse and Transformation) that allowed us to identify scenarios of continuity and discontinuity. The results show a paradoxical predominance of continuity scenarios, contradicting our hypothesis that the crisis would have fostered creativity regarding the "world after." The discussion focuses on potential explanatory elements. These relate essentially to the way the scenarios were produced, notably in terms of time horizon, explanation of the methods and selection of the variables structuring the scenarios. These elements seem to indicate that these scenarios were rather generated from a reactive posture, showing a reluctance to rethink the present as a moment of discontinuity opening up the horizon of possibilities. This initial work paves the way for a more systematic exploration of the practice of anticipation and the capacity to produce creative/imaginative futures in times of crisis.

KEYWORDS
anticipation, COVID-19, discontinuity, scenarios

1 | INTRODUCTION

In early 2020, the COVID-19 pandemic introduced wide-ranging, sudden changes in the way human societies operate. The crisis has altered, at least temporarily but also significantly—individual and collective habits and, in an apparently more lasting way, some dimensions of economic and social life. Globally, during the first wave of the pandemic (from March to June 2020), almost 54% of the population has been locked down (IEA, 2020). In many countries, the lockdowns meant a great restriction of mobility, business closures, unprecedented state intervention and support measures, ranging from the massive injection of public resources into the private sector to the introduction of exceptional measures such as curfews and states of emergency. The pandemic has made us aware again of a number of uncertainties, which, though part of our lives, we had tended to forget or put out from our minds. In the face of the uncertainties and the lack of understanding of the scale of the ongoing phenomenon, a "litany", in other words "the day-to-day future, the

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commonly accepted headlines of the way things are or should be" (Inayatullah, 2008, p.12) had developed around the lack of anticipation, particularly on the part of the public authorities. The world has, in fact, found itself suddenly plunged into a situation similar to that depicted in scenarios such as "Fragmentation" (Öborn et al., 2011), "Walled World" [*Monde muré*] (Bourgeois et al., 2014), or "Regional Rivalry" (O'Neill et al., 2017), in which states or regions of the world become isolated from one another. This kind of scenarios, often seen as dystopian, is produced by a process of incremental, self-reinforcing concatenation of events that depart from observed trends.

Where anticipation is concerned, it has often been pointed out that uncertainty increases in proportion as the time-horizon recedes (van Dorsser et al., 2018; Swart et al., 2004). With the crisis, what might have appeared as a long-range discontinuity suddenly became a present reality. Moreover, that reality has become itself a source of immediate uncertainty through lack of preparedness with dimensions as multiple as they are unexpected. Given this situation, during the peak of the first wave, would it not have been logical to expect the emergence of future-oriented thinking that would enable the uncertainty to be managed through anticipatory approaches such as scenario-building? Moreover, should not the particular health-related character of this crisis, which directly impinges on life, prompt stronger, more disruptive, reactions than other types of crisis (for example, the sub-prime mortgage crisis of 2008)? Do we see in the texts produced during the crisis evidence of a change in our relation to uncertainty and thus to the future?

2 | STATEMENT OF THE PROBLEM

The COVID-19 crisis bears all the hallmarks of a critical moment, defined as a situation of uncertainty in which societal decisions are causally decisive in the choice of one possible institutional development path over others (Burt, 2007; Capoccia, 2016). It is legitimate, then, to ask to what extent this crisis situation may have constituted a "trigger" capable of transforming our way of thinking about the future.

The central question posed in this paper bears on the nature of the representations of the future produced in scenario form between March and June 2020, at the height of the first wave of the crisis. The choice of this short and particular period, marked by a general feeling of fear and astonishment, was made in order to capture the immediate thoughts about the futures produced in time of crisis. We use the term "representation" as the way something is described, according to the Cambridge dictionary; here this something is the future. These representations entails a diversity of futures (such as plausible, possible, preferred, preposterous, ...) as per the Futures Cones (Voros, 2017). We did not look for a specific future (such as a preferred future) but at the inclusion of diversity in the representations of the future.

Our initial hypothesis is that this crisis represents a sharp and unexpected break that has reinvigorated the question of anticipation within public discourse. The ensuing representations of the future are, then, necessarily discontinuous with the situation preceding the crisis. The term discontinuity is used here in reference to the terminology developed by Burt (2007). A discontinuity is a "second-order" change, which transforms the fundamental properties of the existing system. Such changes are produced as a result of unforeseen exogenous jolts. Discontinuity is of a more profoundly transformative order than first-order changes (disruptions), which consist in disturbances of the existing order that do not pose a fundamental challenge to that order (Burt, 2007). Discontinuity manifests itself, then, in representations of the world-to-come that ensue from the impact of these unforeseen exogenous jolts on the nature and/or direction of the trends that configure the present world (GFAR, 2014). The appearance and spread of COVID-19 at the beginning of the year 2020 is precisely this type of unforeseen exogenous jolts, in the sense that it was not expected to occur at this precise moment. Its sudden emergence boosts the "thinkability" of certain representations associated with distant futures that were regarded as utopian, dystopian, or illusory in "the world before."

How do things stand in reality? What types of scenarios were imagined in a context of general astonishment and anxiety? Are the representations of the future produced in scenario form at the height of the crisis more discontinuous with what preceded or more in continuity with it? Have we seen the production of anticipation work reflecting discontinuity and depictions of a world after that are significantly different from the work produced in the "world before"? Has the space of possible futures opened up sufficiently to allow the emergence of new ways of seeing or rethinking the present? These questions are at the heart of the work presented in this paper. In order to provide some first thoughts on this matter, we have carried out a review and selective analysis of the literature relating to the world after that was published in the initial phase of the crisis and up to its first peak in Europe (March–June 2020). This world can be free of the COVID-19 or still plagued by its presence. The first part of the article describes the methodological choices involved in compiling the document base and its analysis. The two following parts present the results obtained and discuss those findings.

3 | METHOD

The method adopted has three components: (a) compilation of the document base; (b) the choice of a classification typology for the scenarios analyzed; and (c) the analysis of the content of the scenarios of each type.

3.1 | Compilation of the document corpus

On the basis of web searches using the key words "COVID-19 and scenario," we identified a set of 60 texts likely to contain representations of the world after. These texts are taken from the press, scientific journals or Internet sites (blogs and the sites of various

bodies). These anticipatory productions relating to the COVID-19 crisis range from the most elaborate forms—multi-dimensional representations of possible futures formulated as scenarios—to simplified forms of the representations of possible futures bearing on a limited number of dimensions, and at times a single one (e.g., epidemiological or economic). In this article, the term scenario refers to a narrative describing the world (or part of the world) in the future. A scenario comprises a description of the future state of at least two of the classical STEEP dimensions (Boschetti et al., 2016), for example, combining at least an economic and a policy dimension, or a social and an environmental dimension [Correction added on 24 March 2021, after first online publication: citation in this sentence has been corrected for clarity.]. From this first selection of texts, we identified four main forms of expression of the future (some texts, because they consist of different sections, may belong to more than one of these categories).

In the first form, the future is expressed as a vision of a desirable state to be achieved and is conditional upon a range of measures to be taken. The desirable future often breaks with representations favoring the pursuit of growth (Bourg et al., 2020; Durand & Keucheyan, 2020). In a more targeted way, the future being promoted is concentrated in a precise field, such as the circular economy (Bargain & Cardebat, 2020) or the management of problem of neighborhoods (Epstein & Kirszbaum, 2020). This is also the case with the texts on the evolution of work (Aigner et al., 2020; Battilana et al., 2020) or on the evolution of capitalism, which is seen as becoming potentially more authoritarian (Guillou, 2020). A number of exercises in collective reflection on the worlds after, sponsored by associations or by government, fall within this form of expression of the future and, in some cases, are more like thematic collections of measures to be taken (Inventons le Monde d'après, 2020; Le jour d'après, 2020). In these "programmatic"-style documents, the future is directly used to set out a series of sectoral actions to be implemented, but ultimately it is not described in all its dimensions. We did not retain these documents for our analysis.

Other texts express the future through the possible evolutions of a single sector (energy, governance, health and new technologies), drawing on expert knowledge, without producing any scenario (Louvet & Cordiez, 2020; McKee & Stuckler, 2020; Phillipson et al., 2020). Among these, some more critical texts question the measures taken in France to manage the COVID-19 crisis and sketch out possible future states in some fields such as the economy, or security, without producing scenarios (Citton, 2020; Dardot & Laval, 2020). In some cases they sketched out several hypotheses about the future, the better to demonstrate the weakness of current and probable responses to the crisis on the part of the French government (Lordon, 2020). These texts were not kept either for the analysis.

The future has also been expressed by way of projections produced from computer simulations, mostly in the fields of epidemiology or macroeconomics. These approaches consist in formulating hypotheses as to how variables from one field will evolve, and digitally simulating their impact over time on other variables. For example, Begley (2020) simulates different hypotheses on how the COVID-19 epidemic will evolve and McKibbin and Fernando (2020) simulate the impacts of these on macroeconomic variables. However, they do not constitute scenarios.

Finally, a last corpus of texts displays representations of the future in the form of exploratory scenarios incorporating several dimensions (for example, health and the economy). When the future is described through the coherent articulation of variables originating from more than two dimensions, we consider it is a scenario. These texts may describe a single scenario (Lichfield, 2020) or several contrasted ones (e.g. Escalona & Godin, 2020; Wells et al., 2020). The scenarios often aim to bring the reader into different futures, or to compare futures with one another.

We concentrated on this last type of texts, which express the future in the form of one or more scenarios, as scenarios are widely acknowledged in futures literature to be a particularly appropriate way of considering future uncertainty (Fuller & De Smedt, 2008; van Notten et al., 2005).

We did not use a predefined time-horizon as a criterion for the selection of documents. By their future-oriented nature, these productions all relate to a timeframe located explicitly beyond the present—in other words, all relate to an identifiable time-horizon in the future. Nevertheless, the analysis we propose here does not depend on the classic distinction in the field of anticipation between the short term (less than five years) and the long term (more than ten).

A corpus of 23 English- and French-language texts, taken from 21 reference publications and proposing world after scenarios, was compiled. This corpus displays a diversity of authors in terms of sectors and countries (see Table 1). Eight authors are from academia, six are from consulting companies, two are from journalism, two work in a bank, two in a union/association, and one in an NGO. They are based in France (5), in the UK (4), the USA (3), Europe (2), Belgium (2), Australia (1), Dubai (1), Indonesia (1), The Netherlands (1), or it is a group of authors from different countries (1). The authors' base is therefore wide and all are competent in matters relative to the future. One reference, Futuribles (2020), comprised three distinct, independent parts: scenarios at the level of France, scenarios at the European level and scenarios at the world level. We have therefore split it into three independent texts. This body of texts amounts to 83 scenarios in total.

3.2 | Choice of typology and classification of scenario

In a first stage, scenarios were classified by category. Each category groups together generic and shared images of the future (Crawford, 2019). To this end, we initially carried out a review of the different generic typologies most commonly cited and/or used. We identified eight main sources of typologies relating to representations of the future:

- Dator's alternative futures (Dator, 2009)
- Futures archetypes (Inayatullah, 2008)

TABLE 1 Classification of the 21 sources of the scenarios

Text Reference	Author	Sector	Country
1	Deloitte	Consulting	Multinational
3	Bihr (2020)	Academia	France
4	BNP-CETELEM	Bank	France
5	ING	Bank	The Netherlands
6	D'hont	NGO	Belgium
7	Colyer (2020)	Consulting	Indonesia
8	Woodgate (2020)	Academia	United Arab Emirates
9	Pochet (2020)	Union	Europe
10	Futuribles	Consulting	France
11	Gavira	Trade association	Europe
12	Mackenzie	Consulting	United Kingdom
14	Degnarain (2020)	Consulting	United States of America
15	Escalona and Godin	Journalism	France
16	Hulme and Horner (2020)	Academia	United Kingdom
18	Inayatullah and Black	Academia	Australia
19	Claisse (2020)	Academia	Belgium
20	Mair (2020)	Academia	United Kingdom
21	Moran (2020)	Consulting	USA
22	Acquier and Carbone	Academia	France
23	Lichfield	Journalism	United States of America
24	Wells, Abouarghoub, Pettit, and Beresford	Academia	United Kingdom

Note:: Source: Authors.

- Schwartz's scenarios (Schwartz, 1996):
- "Aspirational" scenarios (Inayatullah, 2015)
- Borjeson et al. scenario types (Börjeson et al., 2006)
- Myths of the future (Boschetti et al., 2016)
- The Global Scenario Group's scenario archetypes (Raskin, 2000).
- The primary archetypes of the Natural England Commissioned Report (Natural England, 2011)

We then used four criteria to determine which typology would be most conducive to an analysis and discussion of the findings relating to the question raised in the introduction.

Those four criteria are as follows:

- **Essentiality**: the typology relates to the "nature" of the future or, in other words, what constitutes the essence of the societal situation described by each element of the typology;
- **Neutrality**: the typology does not include any categories implying a value judgment on images of the future;
- **Genericity**: the typology is sufficiently generic to enable multi-scenario as well as mono-scenario productions to be incorporated into a single analysis;
- **Discontinuity**: the typology enables categories to be constituted which make it possible to take account of change.

Dator's typology seemed to best satisfy all four criteria, particularly that of discontinuity. That choice is also vindicated by the relations between Dator's archetypes and other systems of scenario categorization (Fergnani & Jackson, 2019).

Dator's four archetypes used for the taxonomy of the scenarios identified are the following:

- **Continued growth.** This refers to scenarios developing on the basis of a logic of economic growth, which remains the central value.
- **Collapse.** This groups together scenarios leading to extinction, or to a lower stage of development than the current stage ("recession"), both on a global and a local or specific scale. At issue is not simply the phenomenon as such, but also the life (or survival) associated with that phenomenon.
- **Discipline.** This corresponds to scenarios in which other values take precedence over economic growth—for example, values of fair redistribution, of survival, and natural, spiritual, religious, political or cultural values. Human life is "disciplined" by these values.
- **Transformation.** This refers to the transformative power of technology (robotics, artificial intelligence, genetic engineering, nanotechnologies, quantum teleportation, space technology,

and interconnection). In this category, one finds, for example, fundamental transformations of living matter and hence of the human (human enhancement, the post-human), a totally artificialized Earth and human outreach beyond the limits of the planet.

These archetypes describe rather extreme situations that help structuring our classification of scenarios. They need however to be reality-checked when used, which is what we developed in the discussion section.

3.3 | Analysis of the scenarios

We first analyzed the corpus of documents in terms of the scales, time-horizons and methods used as these are basic elements that guide all the scenario production processes (Crawford, 2019; Curry & Schultz, 2009). For that, we referred to the precisions given by the authors of the documents.

We then analyzed the distribution of the corpus of scenarios across the different Dator's archetypes.

For each type, we reviewed the contents of the corresponding scenarios to understand the representations expressed and to evaluate the extent to which each proposed scenario implied a process of continuity or discontinuity with the present.

Finally, we studied the variables used for the construction of the scenarios. Cornish (2004) divides these into seven categories: demographics, environment, governance, economics, society, sciences and technologies, and geopolitics. For each type of scenarios, we checked the presence and the state of these variables.

4 | RESULTS

4.1 | On spatial scale, time-horizon, and methods

Figure 1 displays some characteristics of the corpus of documents analyzed. Regarding **spatial scale**, the very large majority of the texts (74%) are pitched at a global level. Five (22%) relate to the West (Europe/USA) and only one concerns just one country (France).

We found then that the time-horizon is not clearly specified in almost half of the cases (48%). When it is specified, a short-term horizon (2–5 years) prevails (26%) over medium (9%) or long-term (13%) horizons. In the non-specified cases, the short term seems generally to be favored, with world after scenarios formulated as images of a very near future.

In many cases, the method used for creating scenarios was not explicitly indicated. Therefore the classification below relies on our interpretation of how the scenarios had been obtained. After a thorough search of the methodological aspects in each paper, we decided to create four categories. The first category, called "structured narrative" includes texts in which the creation of scenarios can be clearly associated with trends or driving forces that are made explicit. However, the reason why the authors selected a trend or a driving force is not always clear. The "2 × 2 matrix" category (Ramirez & Wilkinson, 2014) regroups texts where the authors used two major forces (or dimensions) to shape a space of four possibilities. Sometimes there was an explicit reference to this method, sometimes it was only implicit and we inferred that the method was actually based on the 2 × 2 approach. Here again, the authors did not systematically justify the selection of the major forces they used. We created a third category, called "Imagined narratives," where the authors created the scenarios without using a specific method other than their own inclinations. The "Other methods" category included texts that draw on a different method (namely, Dator's typology, the Houston Foresight Model and a morphological analysis for three texts). The first two categories represented respectively 35% and 30% of all the cases, while the third and fourth categories had respectively three and five cases. Morphological analysis was counted as three cases, but these correspond to the Futuribles source, which entails connected scenarios at global, European and France levels, all developed with morphological analysis.

4.2 | On scenarios

The 83 scenarios in the corpus were analyzed using Dator's typology. The detailed list of all the scenarios can be found in Appendix 1. Table 2 summarizes the distribution of these scenarios.

4.2.1 | The "Continued growth" scenarios

This group makes up the majority of the scenarios produced (50 scenarios or 60% of the corpus). This set of scenarios seemed quite diverse in terms of the intensity of continuity. Whereas, in fact, a large majority of the scenarios see the future as directly continuous with the current system, centered on the uncontested imperative of economic growth, several small groups of scenarios depart to some extent from this return to "normal" and, though they do not challenge the central role of growth, attach different attributes to it. The first category, which we dubbed "Global

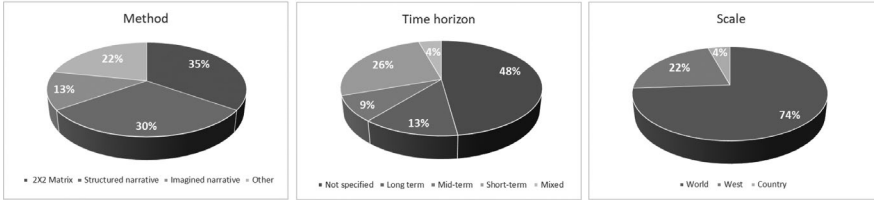

FIGURE 1 Main characteristics of the documents analyzed

TABLE 2 Classification of scenarios according to DATOR's typology and continuity/discontinuity

Type	Category	Sub-category	Scenario Id	Continuity including 1st order change	Discontinuity
Continued growth	Global growth unlimited	Slow and weak recovery	1a, 5a, 7a, 7c, 5d, 10 h, 10i, 14b, 14c, 15a, 16b	11	0
		Ups and downs	5b, 8b, 18b, 21c	4	0
		Back to before	3a, 4a, 4b, 19b, 21a, 24a, 5c, 6a, 11a, 12a, 10c, 10f, 10 g, 22a, 9a, 9c, 14a	17	0
	Fragmented growth		1d, 9b, 10a, 10b, 11b, 12b, 15b, 21b,, 10e	9	0
	Bending growth		1c, 3b, 7b, 15c, 16c, 20a, 12c, 14d, 24c	9	0
Discipline	State oriented		3c, 10j, 15d, 19a, 20c, 22b	0	6
	Decentralized and multi-stakeholder oriented		4c, 4d, 6c, 20d	0	4
	Others		9d,19c,24d	0	3
Collapse			6b, 6d, 24b, 1b, 7d, 8d, 10d,19d,10 k,11c, 16a,18a,18d, 20b	0	14
Transformation			8c, 11d, 18c, 21d, 23, 8a,	4 (8a, 11d, 21d, 23)	2 (8c, 18c)

growth unlimited" comprises 32 scenarios; two other categories were identified: "Fragmented growth" (nine scenarios) and "Bending growth" (nine scenarios).

Global growth unlimited

We identified 32 scenarios that describe a trajectory of return to a situation more or less identical to the pre-COVID-19 world. Their common feature is that, in them, economies experience recovery based exclusively on the pursuit of growth. They are centered on two variables: economic growth and the state of the COVID-19 epidemic. Ecological drivers receive a marginal mention in five of the 32 scenarios (scenarios 8b, 18b, 6a, 24a, and 10c), as do social drivers (1a, 10h, 10i, 8b, and 16b). Though all the scenarios imagine an economic system that recovers, they nonetheless vary on the pace and success of that recovery. Three categories can be distinguished here:

- *Weak and slow recovery*: a first group of 11 scenarios describes a situation of weak recovery (scenarios 1a, 5a, 7a, 7c, 5d, 10 h, 10i, 14b, 14c, 15a, and 16b), if not indeed economic crisis, mostly due to the epidemic remaining out of control or being only poorly controlled (except in scenario 1a). They are characterized by maintaining economic growth as the central value even in a situation of weakening economies. This economic and health situation, responsible for great inequality and low levels of development (5a and 16b), leads to social tensions and protests (1a, 16b, 10 h, and 10i).
- *Ups and downs*: another group of four scenarios (5b, 8b, 18b, and 21c) features a saw-tooth-shaped recovery, with 2020 characterized by a major economic crisis. Scenarios 5b and 8b describe a severe second wave of the epidemic. In these four scenarios, 2021 is marked, however, by a "return to normal" and a resumption of economic growth.
- *Back to before*. A group consisting of 17 scenarios describes the end of the health crisis and of the preventive measures after the rapid development of a vaccine. Nine scenarios do not even mention the effects of the health crisis (3a, 4a, 4b, 19b, 21a, 24a, 9a, 9c, and 22a). Ten scenarios explicitly mention action on the part of the public authorities to boost economic recovery by different methods: a state recovery plan (5c, 6a, 11a, 12a, 3a, 10c, and 22a), a pre-eminent role for Europe (10f, 10 g), or an economy in which the collective good is managed by states and major organizations, drawing massively on connected devices and artificial intelligence (4b).

Beyond this diversity, these 32 scenarios in the "Global growth unlimited" category speak of an economic upturn leading to economic growth inferior or similar to 2019 rates. However, very few mention the continuing degradation of the environment and climate (6a and 24a) or of investment in the green economy and green technologies (6a, 24a, and 10c). Three scenarios (9a, 9c, and 22a) push growth to its most extreme; these are neo-liberalism (9a), ruthless over-exploitation of resources (22a), and disregard for environmental concerns and workers' conditions (9c).

Fragmented growth

Nine scenarios (1d, 9b, 10a, 10b, 11b, 12b, 15b, 21b, and 10e) present worlds after characterized by a fragmented global economic order due to permanent or recurrent lockdown measures (10b, 11b, and 12b), unequal health conditions between countries (10a) or changes in the growth model on account of teleworking and new patterns of consumption (21b). A shift in the

centers of power and decision-making may occur toward Asian countries that are more able to manage the global health crisis (1d) or serve as examples in establishing authoritarian regimes which seize on the crisis to entrench their power at the cost of civic freedoms. Scenarios 9b, 10e, and 15b are on the borderline between the "Continued growth" and "Discipline" categories; in them, the political regime is disrupted but economic growth remains dynamic.

Bending growth

Nine scenarios depict a future in which the "Continued growth" model is inflected to become a "better growth" model (14d), either by a fairer system (1c, 3b, 7b, 15c, 16c, and 20a) or a more ecological one (12c, 14d, and 24c). These scenarios expand the effects of the COVID-19 crisis, which led to more global cooperation in the health sector, beyond the field of health itself. Protagonists of this inflection are either the state (20a), government and central banks (7b), a new class of enlightened public and private decision-makers in government and companies (15c), or all institutions working together to fully achieve the Sustainable Development Goals (16c). Two scenarios (12c and 14d) associate continued growth with a greener economy through worldwide government stimulus for investment in energy transition or planetary health.

Within the "Continued growth" category, the majority of scenarios involve no significant change with respect to growth, which is maintained as the overarching value shaping societies. However, some scenarios, particularly those in the "Weak and slow recovery" group of the "Global growth unlimited" category, and those in the "Fragmented growth" and "Bending growth" categories, typically display some disruptive aspects in the sense of Burt's (2007) first-order change. The disruption does not, however, result in discontinuity, as it does not induce a permanent and irrevocable move away from growth and economics as the leading value.

4.2.2 | The "Discipline" scenarios

We identified 13 scenarios (16% of the corpus) as being akin to Dator's "Discipline" category. These scenarios all share the general idea that the magnitude of the crisis had the effect of reconfiguring priorities, values and behaviors toward a society more attentive to the questions of ecological, energy and inclusive transition. This unprecedented situation requires a capacity to produce new rules—and to have them respected—for sustainably managing "system Earth," while forestalling the crises that continue to occur.

In this group of scenarios there are, on the one hand, scenarios that assign a preeminent role to the state to manage that transition toward new value-systems, that is, "state-oriented" transition (scenarios 3c, 10j, 15d, 19a, 20c, and 22b) and, on the other, scenarios which instead favor modes of organization, that is, "decentralized and multi-stakeholders-oriented" transition (scenarios 4c, 4d, 6c, and 20d). In one scenario (22b), the limitation of mobility indirectly reinforces this idea of the densification of local relations.

All these scenarios display major discontinuity in relation to the current situation and they stand resolutely in a post-growth paradigm, characteristic of second-order change.

4.2.3 | The "Collapse" scenarios

Fourteen scenarios fall into the "Collapse" category (17% of the corpus). They describe a world in which succeeding crises and shocks have brought about a partial or total destruction of the current system.

Among these, 12 take as the starting point of that collapse a persistence—or even intensification—of the COVID-19 pandemic, either by the virus mutating or by its regular resurgence in the absence of a vaccine. We shall speak here of "new COVID-19-era" scenarios. In some scenarios (6b, 6d, and 19d), the health crisis is amplified by various climate shocks. The initial health crisis then leads to an economic crisis—in some cases after a phase of rising nationalism. Most of the scenarios then depict a social and humanitarian crisis, leading either to the weakening of the state or, by contrast, the emergence of authoritarian, nationalist regimes.

The other scenarios (7d and 20b) imagine a situation of collapse, which begins with an economic crisis that originates in the quasi-global lockdown of early 2020. That economic crisis then leads to social and health crises. Climate risks appear in three of the 14 scenarios as factors contributing to the collapse. In scenario 24b, the collapse of the socio-technical system results in a reduced level of environmental degradation.

The futures depicted in this category are the products of second-order changes triggered by the accumulation of events affecting several sectors of society, making economic growth a trivial consideration by comparison with survival. Hence, all the scenarios in this category are regarded as expressions of a discontinuity.

4.2.4 | The "Transformation" scenarios

The scenarios that fall into the "Transformation" category (scenarios 8c, 11d, 18c, 21d, 23, and 8a) are the least frequent (six scenarios, 7% of the corpus). They imagine a future dominated by the rise and omnipresence of the new technologies in daily life, which lead to fundamental social change. The aspect most often mentioned in the texts is the massive recourse to teleworking and a shift in business activities toward the virtual. Three scenarios (8c, 18c, and 23) feature systematic recourse to new technologies in the medical field, which brings with it an overall improvement in health and increased life expectancy. Social relations have to be re-thought, in both work and private life.

The rise of the new technologies entails a change in the social paradigm, which means that these scenarios resemble the "Discipline" category. For example, two scenarios out of six describe a "social revolution," with new technologies being developed to foster environmental conservation, lower meat consumption

(scenario 18c), and a pursuit of happiness and well-being rather than economic competition (scenario 8c). These transformations seem like a second-order change with respect to growth as a central value and are, therefore, discontinuity scenarios. One scenario raises the question of a need for re-localization and local resilience (scenario 21d) without, for all that, calling the foundations of the pre-COVID-19 system into question. One scenario (23) takes the opposite line and describes a society in which the new technologies are used for mass surveillance. The negative impacts of the rise of the new technologies on the protection of private life are also pointed out in scenario 18c. New social relations and working conditions lead to increased discrimination and greater economic and social inequality. Scenarios 11d, 8a, 21d, and 23 highlight an increased use of new technologies without challenging economic growth, while two scenarios (8c and 18c) are second-order change scenarios (discontinuity).

4.3 | On variables

Our analysis of variables in the scenarios referred to Cornish (2004) seven categories of variables: demographics, environment, governance, economics, society, sciences and technologies, and geopolitics.

First, among the missing variables, we observe that the "demographics" variable is absent from most of the scenarios. "Geopolitics" is not much present and the "environment" category is also very largely absent. Though climate risks are sometimes present, they play a secondary role. Risks associated with the deterioration of natural resources are absent. Only three scenarios in the "Continued growth" category mention "green growth."

Conversely, the "governance" category is very much present. The state and government are major actors in the scenarios. In many of them, the capacity of centralized governments to contain the pandemic is emphasized, as are public investment, subsidies, and government austerity policies. Other scenarios refer to distrust of the state and its powerlessness, and some to the diminution of its role (scenarios 4c, 20d). The role of the private sector is also often highlighted. In the scenarios in the "Discipline" category, the emphasis is placed on regional development and de-centralization (6 occurrences), participation (5), solidarity, and mutualism (5).

"Economics" is also highly present. Economic growth is, naturally, omnipresent in the scenarios in the "Global growth unlimited" category, but it is also very much present in the other scenario families through such aspects as fiscal policies, subsidies, and employment. All the scenarios of the "Collapse" type center on the economic crisis. The development of modes of production or consumption is dealt with in the scenarios of the "Discipline" category.

The "society" category is especially present in the scenarios of the "Discipline" and "Collapse" categories. Whereas many measures are put in place to protect individuals from illness and death and others are taken to restore employment to individuals, human beings with their personal consciousness are seldom foregrounded. Only in scenarios 4c, 9d, 10c, and 10f does solidarity appear.

The "sciences and technologies" category is very much present in the "Transformation" scenarios, in the form of artificial intelligence, robots, medicine, vaccines, etc.

5 | DISCUSSION

We discuss here, first, our central expectation that the crisis, as a major source of discontinuity, would prompt the production of alternative representations of the future, drawing on this discontinuity as a source of creativity that frees up the ability to imagine significantly alternative futures. As the discussion will show, this proved not to be the case. We will go on to explore some potential explanations and draw conclusions as to how the crisis was, and probably still is, perceived, and our capacity to think the future in times of severe disruptions, a situation that is expected to recur quite often. We also include a section on the limits of this study.

5.1 | On discontinuity

Figure 2 displays the distribution of the 83 scenarios of our corpus across Dator's categories and our own sub-categories. Gray circles correspond to the discontinuity scenarios. Black circles include continuity scenarios, that is to say, scenarios displaying no change with regard to the paradigm of economic growth as the central value, and scenarios including disruptions that do not result in a change in the paradigm.

Unsurprisingly, and by definition, the "Continued growth" category does not involve discontinuity scenarios. More surprising is the number of scenarios that fall into this category. The 32 scenarios of the "Global growth unlimited" sub-category look very much like "business-as usual (BAU)" scenarios with variations as to how the world goes back to normal, whether "naturally" ("Back to before"), through "Slow and weak recovery" or by a bumpy path ("Ups and downs"). The latter two categories include some disruptions of relatively minor amplitude, which ultimately make the "world after" a re-run of the "world before". The "Fragmented growth" and "Bending growth" categories display first-order change, which makes for non-discontinuous representations of the future, because economic growth remains the dominant value, though in a more fragmented world or with the inclusion of some additional aspects, such as a little more social justice or a few more environmental concerns.

Unsurprisingly also, the "Discipline" category includes, by definition, only discontinuity scenarios, since we opted to exclude the first-order change scenarios from this category, particularly those we classified in the "Bending growth" category. With 13 scenarios from 23 texts, it is clear that a certain number of texts did not even consider the possibility of a discontinuity between the "world before" and the "world after". We will discuss this interesting finding in the following sections. A remarkable aspect of this category is how the discontinuity concretized into a new and different world order. This prompted us to create sub-categories to uncover the

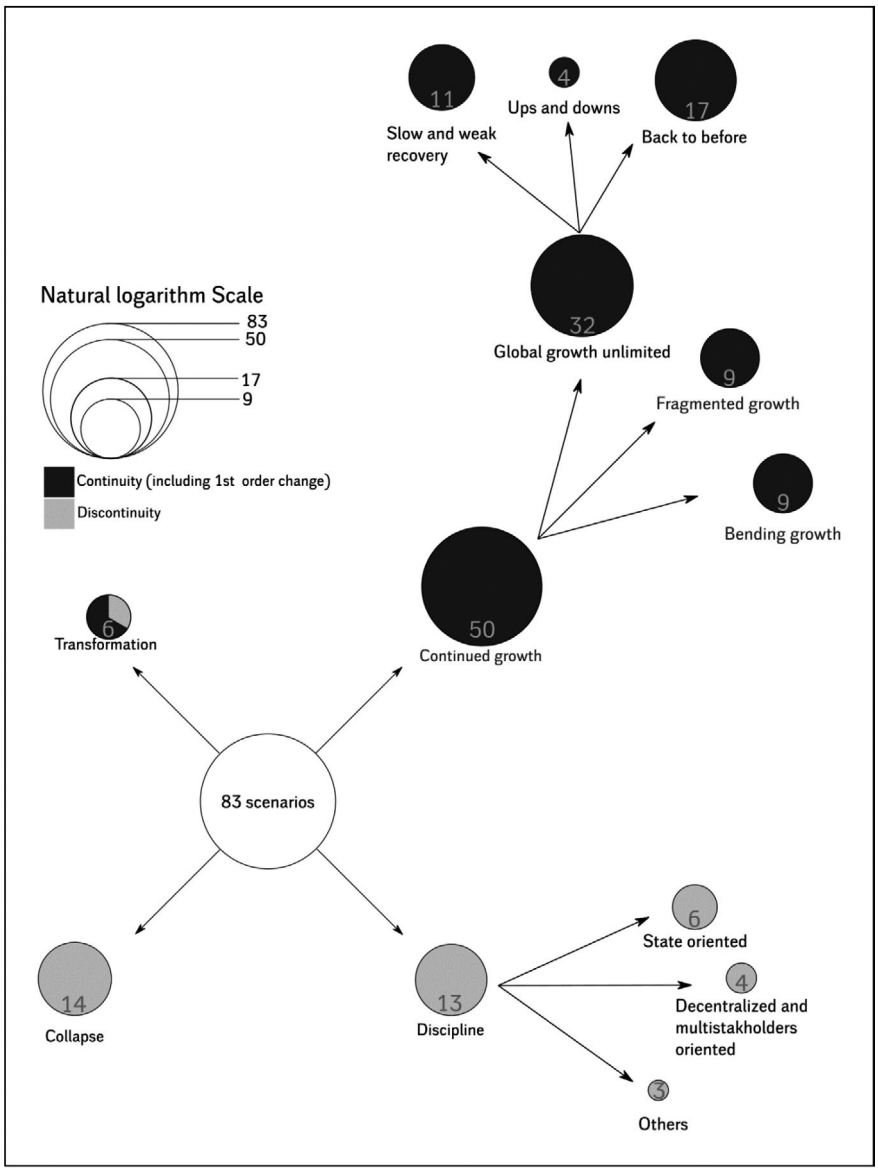

FIGURE 2 Distribution of scenarios by category, sub-category and continuity/discontinuity characteristics

type of agency that led to something else (e.g. a post-economic growth paradigm, such as the "Managed De-growth" scenario 24d) being substituted for economic growth as society's central value: on the one hand, states, and, on the other, a coalition of stakeholders.

The six scenarios in the "Transformation" category are inspired directly by the period of lockdown, characterized by the extreme virtualization of social, individual and occupational life. The low number of these (6) is quite surprising, given that the pandemic presented an opportunity to boost imaginative thinking. One could have expected, for example, to see enhanced human beings or, alternatively, an extreme artificialisation of nature, in order to make susceptibility to illness a thing of the past or render the occurrence of such pandemics impossible. We expected also the scenarios in the "Transformation" category to be vectors of discontinuity, because their constitutive transformation of human and natural elements. However, four scenarios do not call into question the deep-level operation of society. Only two scenarios envisage human life becoming artificial by way of technologies leading to a "world after" in which current references no longer have any meaning.

Since the "Collapse" category corresponds to a partial or total collapse of the "world before", it quite logically consists of discontinuity scenarios. Some scenarios present that discontinuity as the product of a "world before" which was, in any event, leading to collapse, its occurrence being directly or indirectly hastened by the COVID-19 crisis. In such scenarios, the COVID-19 crisis is the triggering element of a succession of crises that, at the end, transform the fundamental properties of the "world before," which was already running out of steam. However, all these scenarios represent the same type of world after and are, ultimately, the expression of a single major discontinuity, which is the end of the "world before," although without really depicting a diversity of "worlds after."

In conclusion, much of the evidence indicates that the crisis did not produce the expected outcome in terms of freeing up imagination and creativity by way of future-oriented thinking that fundamentally involves discontinuity. This is seen, first, in the numerical prevalence

of scenarios in the "Continued growth" category and, particularly, in the "Global growth unlimited" sub-category. In addition, most of the scenarios leave out of account the conceptual break that sustainable development represents. They do not question the present - that is to say, the social, ecological, and economic paradigms that have held sway in the West since the eighteenth century. They ignore the role of human beings in the emergence and, subsequently, spread of new viruses and the amplification of that role by the globalization of trade and lifestyles, as well as the major influence of biodiversity loss in this pandemic (Keck, 2020; Morand & Lajaunie, 2018). Even in the "Discipline" category, few scenarios mention the establishment of new indicators to steer the adaptation of societies and their activities. Only scenario 22b refers to a resilience index, an indirect way of conceiving a post-growth phase with plural, evolving end-goals.

All these points lead us to conclude that there does not really seem to have been any stimulation of alternative modes of thinking beyond those that already exist, modes that would enable us to imagine a wide diversity of future worlds in which the central values of our existence and ways of life would be fundamentally different. It is logical, then, to enquire what the reasons for this may be. To this end, we advance the hypothesis that some characteristics of the methods used and, beyond the methodological choice, the associated anticipation posture enable us, at least partially, to understand this situation.

5.2 | On variables

Results showed that two classical categories of variables were more or less absent of the scenarios: “demographics” and “environment.”

The absence of the “demographics” category is quite surprising as, on the one hand, it is usually very present in collapse scenarios (Diamond, 2005) and, on the other, the COVID-19 pandemic kills people and thus impacts demography. The demographic trends indicating an aging population or a decline in its state of health are barely mentioned. Has this simply been overlooked by the authors of the scenarios? Is this linked to the short-term timeframe during which demographics varies little? Or is there fear of broaching a difficult subject?

The absence of variables related to climate change and environmental deterioration contrasts sharply with the collapse scenarios that are normally produced (Servigne & Stevens, 2015; UN General Assembly, 2015; Weiss & Bradley, 2001), as well as with all the ongoing studies of sustainable development. This is due, not only to the use of a short-term timeframe with regard to both past and future and to the concentration on COVID-19, but also to the absence of a systemic approach and an understanding of the origins of the pandemic. The “green growth” scenarios seams also underrepresented (only 3), while this is a recurrent theme and a course of action increasingly envisaged and spoken of by political authorities.

Another unexpected element is the emphasis on the local and regional dimension in the “governance” category, in particular in relation to the "Discipline" category. This dimension did not figure in the thesaurus of terms identified by Fergnani and Jackson (2019), using quantitative textual analysis to identify the 80 or so words most frequently used by each type of Dator's four types, except perhaps with the term “communal”. This could be an effect of the lockdowns, which have stressed the importance of neighborhood relations and local resilience to cope with shocks. Some scenarios speak of citizens and their “freedom to choose happiness.”

5.3 | Methodological choices that limit alternative thinking?

5.3.1 | Absent or short-term time-horizons

Most of the documents were produced during a lockdown period, a period in which we have a peculiar relation to time. In many cases, the time-horizon of the scenarios is not specified, even though this is not only a basic element in scenario production processes, but also an element that has a direct effect on the way uncertainty is apprehended in scenario building (Crawford, 2019). The absence of explicit time-horizons does not, however, seem specific to the themes in play. It is more related to the type of corpus under analysis, as attested by the observations of Fergnani and Jackson (2019) in their analysis of online sources on the future of work; they show that a great many of these bear no explicit reference to a given timeframe. Our scenarios mainly focus on the current period and the serious disruption the COVID-19 pandemic created.

When a timeframe is specified, a short-term horizon predominates (1–3 years), which is unusual for scenarios in exploratory foresight studies. At less than three years, scope for imagination and margins of maneuvre are limited. Scenario-building is usually an approach that involves long-term considerations, past and future, because, in any system, highly inert variables (for example, those relating to demographic change) co-exist with others that vary on increasingly short timescales (Amer et al., 2013; de Jouvenel, 2004). “Period effects,” disruptions and discontinuities take on a quite different dimension when analyzed over a long period. Moreover, transformations take time and therefore require that we take the medium- and long-term into account in our thinking. Also associated with the time-horizon are the notions of the probability and plausibility of the occurrence of events (Ramirez & Selin, 2013). It is generally acknowledged, therefore, that the timeframe is essential. Some scenarios have a long-term horizon: the scenarios on the future of sustainability by Wells et al. (24), Acquier and Carbone's (2020) scenarios (22) with a time horizon of 2035, and those of Woodgate (2020) (8) with a 10-to-15-year timeframe. Besides these, Inayatullah and Black (18) do not indicate a time-horizon, but imagine a world in which we are living with COVID-19 on a permanent basis.

The speed and suddenness of the crisis seems to have produced a contraction of the long-term temporality associated with the notion of Anthropocene into an immediate and instantaneous manifestation of its reality (Hartog, 2020). The arrival of so strong a disruptive event as the pandemic prompted a different approach

to the timeframe of anticipation (Marchais-Roubelat, 2018). The end or the resolution of the pandemic (the post-crisis period, the exit from the crisis, the world after) has become the time-horizon. This contraction of time, to a certain extent, refers to the "extended present" (Sardar & Sweeney, 2016), in which the new normality of distant future times becomes the normality of the immediate present and timeframes no longer have any importance.

5.3.2 | Methodological choices seldom made explicit

Anticipation involves proactivity (Godet, 2007), freedom, choices and will (de Jouvenel, 2004); it involves rethinking the present to transform it (Miller, 2015), re-thinking our way of seeing the world and asking new questions (Schultz, 2015). A variety of qualitative or quantitative approaches for exploring and representing possible futures exist such as brainstorming, analysis of trends or drivers, morphological analysis, wheel of futures, causal layered analysis, matrix of critical uncertainties, quantitative simulation. Curry and Schultz (2009) have shown that choice of method significantly influences the outcome of anticipation since two different methods to respond to a single question will generate different scenarios.

The methods used for the building of the scenarios are all qualitative in nature, being congruent in that respect with the method for selecting the document corpus. In some cases, the scenario-building methods and the variables considered are made explicit (e.g., by Deloitte (2020), ING (2020), D'hondt (2020), BNP-CETELEM (2020), and Futuribles (2020)), but many authors do not make either their scenario-building method or the variables and uncertainties explicit. Most of the scenarios were prepared by one person or a small group. They are at times constructed by drawing on the literature, at others by working on a number of variables and, at yet others, they are the product of "a finger in the wind" or of ideologically-driven representations.

It is, thus, noteworthy that most of the studies neglect retrospective analysis and even seem to disregard factors relating to major long-term trends, such as demography, climate change, environmental degradation or the development of non-transmissible illnesses. They do not draw lessons from past crises, failing in particular to refer to the way the world overcame other epidemics (plague, cholera, etc.). Only Colyer's (2020) scenarios (7a, b, c, and d) use knowledge of the past, drawing on the aftermath of the Second World War. The timeframe is, in fact, that of the resolution of, and exit from, the pandemic, and thus, in keeping with the authors' hopes, a short-term one. This choice of an anticipation timeframe stretching from the present to the immediate future, rather than from the distant past to the distant future, is never elucidated in the studies.

Last, the use of a limited number of variables as seen in section 5.2 prevents a whole-system approach and hence a challenge to the current system.

Why these ambiguous, unclarified methodological stances? Are they simply caused by lack of time? Is it because of lockdowns and the difficulty of bringing a group together? We must note that only two (Inayatullah, 2020; Wells et al., 2020) out of the 23 texts in our corpus were published in scientific journals. Publication of that type generally requires time; the period chosen for the formation of our corpus (March–June 2020) was clearly too short to see that kind of publication appear. The texts analyzed in our corpus were produced relatively quickly and publication outlets were selected that enabled them to be disseminated in a short space of time, which may in part explain the vagueness of methodological stances.

5.3.3 | Beyond methodological reasons

To some extent, we can also interpret these results toward a lack of daring in the creation of alternative/discontinuous representations of the future in the world after as the pervasiveness of a used future (Inayatullah, 2015). This used future is here the continuation of the future created in the past, a future of continued growth and expansion of the capitalist mode of production. There are growing concern, awareness and challenges regarding this past future, seen as the reason why such a crisis took place in such a way. Yet, at the peak of the first wave, futurists have mainly endeavored to produce stories aiming at a return to normalcy. Psychological reasons may contribute to explain such a posture, including the immediate fear of sudden uncertainty and the yearning of all for an end to a disruption and the resuming of the routine of the world before. Futurists intended to reduce uncertainty by exploring mainly scenarios that would bring us back more or less to the world before. The COVID-19 crisis did not really bring a break in the "manufactured normalcy", that is the " … mechanisms that operate - a mix of natural, emergent and designed - that work to prevent us from realizing that the future is actually happening as we speak" (Rao, 2012). In this sense, it seems that facing the COVID-19 wild card, the production of representations were mostly reduced to a continuous present requiring the minimum change in our mental models and behavior (Rao, 2012).

The findings of our work seem to betray some psychological desires. A desire for the resolution of the health crisis (by a vaccine), a desire that it should only be temporary, and also a difficulty accepting that the crisis may be systemic and produced by multiple causes. Hence, the long-term view that is essential not only for resolving the current outbreak but also for preventing its recurrence is missing. The time-horizon used for the creation of scenarios excluded the question of the permanence or repetition of COVID-19 or alike diseases. Combined with the desire to normalcy and the weight of used futures, it excluded the possibility of calling into question the situation that preceded the crisis, and limited the production of alternative futures.

5.4 | Limits of the study

These results should be taken as a first attempt to explore the practices of scenario-based anticipatory approaches at the time of

a severe crisis, considered as a wild card introducing an immediate and significant discontinuity in everyday life. As such, it is a unique attempt so far. These results need therefore to be put into perspective due to some methodological choices we had to make. These limits are discussed thereafter. They represent the epistemological boundaries of this study. As such, they do not undermine the results and issues highlighted in this paper, but make clear in what directions further research could be developed in order to expand our conclusions.

5.4.1 | Corpus selection

Our choice of selecting documents made publicly available between March and June 2020 was dictated by our intention to focus our analysis on the effect of a wild card such as the eruption of the COVID-19 pandemic on the production of scenarios. This stance has two major limitations. The first one is that the nature of the production identified was constrained by the very short time-period allowed for the production of scenarios. This had certainly implications regarding this production, particularly method wise, as works that would have needed more time to be completed was excluded. This excluded also most academic publications in peer-reviewed journals for the same reason. The second limitation bears on the interpretation of the results, since we did not offer a systematic review of the COVID-19 related scenario production up to date, but a glimpse at a very specific period of time. Hence, we are conscious that our results should be considered as documented interrogations, potentially opening new research questions on the practice of scenario building during wild card periods.

5.4.2 | Spatial scale

In the texts, the spatial scale concerned in majority the world (72% of the documents) but did not consider spatial specificities of the different parts of the world. The world is in majority represented as a block, all the countries having the same future. The last 28% of the documents concerned Europe and USA, and thus reflect a western representation of the future. We should also notice that the authors of the documents are mainly European or American, so the scenarios imagined may be biased by a western way of thinking. We may have had different conclusions with scenarios from Asian or African points of view.

5.4.3 | Sectorial origin of the selected documents

We endeavored to select documents stemming from different sectors in order to collect a wide range of points of view. As some of these sources came from banks or private consultants, we may have doubts concerning their freedom to imagine discontinuities, which could not be in the interest of their sponsor. However, such sources represented a small part of our corpus (9% for the banks and 26% for the consultants). We found that 20% of the scenarios imagined by banks and consultants were in discontinuity, whereas it concerned 54% of the scenarios developed by the academic sector. With such low number of texts (2 from the banks), it is however difficult to conclude to a real trend, but it suggests a possible bias linked to the sectorial origins of the texts.

6 | CONCLUSION

The analysis of this raft of 83 scenarios produced at the height of the first wave of COVID-19 shows a predominant logic of continuity in the production of representations of the future. Whereas we thought the crisis would stimulate imagination and creativity, it seems rather to have contributed to reaffirming the existing options, convictions and beliefs of the actors, who have produced largely unsurprising scenarios. The literature dealing with the paradoxical difficulty of incorporating discontinuity into scenarios (van Notten, 2004) offers solutions such as explicitly building scenarios based on the notion of discontinuity (van Notten et al., 2005), or mustering an appropriate theoretical framework, such as that of disruption theory (Burt, 2007). The concrete experience of the occurrence of a major discontinuity such as COVID-19 with a worldwide impact seems to contradict this hypothesis.

Many studies show the links between anthropic pressure on Earth's resources and the repeated crises that have occurred successively in recent decades, giving rise to much writing that uses the notion of the Anthropocene (Groupe Cynorhodon, 2020; Bonneuil & Fressoz, 2013; Crutzen, 2002) and its critical derivatives, the "Capitalocene" and the "Industrialocene" (Bonneuil & Fressoz, 2017; Malm, 2015; Malm & Hornborg, 2014). Yet, very few scenarios produced during the COVID-19 crisis envisage a clear break in the logic of growth that dominates the current functioning of our human societies. This can be explained in part by the urgent context in which these scenarios were worked up. Focussing on the short term and the generally-desired restoration of the former *status quo* perhaps oriented the proposed scenarios toward options that favored varying degrees of adjustment over more radical ruptures. Contrary to what one might think, uncertainty did not become, in this case, a trigger for imagination but a trigger for ordinariness.

There could be also lines of explanation that stress the difficulty Western societies have in formulating alternatives to their own logics. Rosa, referencing Jameson (1998) and his analysis of the postmodernist cultural turn, takes the view that, "*a feature of late modern society is the ease with which it can imagine its own apocalyptic end in the most varied forms - fire or ice, viruses, atomic bombs or climate catastrophes, wars or diseases, and mortal threats internal and external - coupled with an inability to develop a positive alternative to the dominant social formation*" (Rosa, 2018). As Rosa stresses, "*late modernity has largely lost its cultural capacity simply to think alternative versions of existence; that is why it no longer harbours any idea of a better life and is no longer sustained by any utopia*" (Rosa, ibid.).

In a very brief period of time, and in a climate of anxiety and uncertainty, the absence of clear methods, the small number of scientific articles in our corpus, the subjectivity in the choice of variables and the small number of alternatives produced show that it has not really been possible to achieve the necessary distance and rigor to construct scenarios that lift themselves out of the present. This finding calls for more systemic thinking on the production of images of the future in a crisis context, and for methods that would enable crises to be used for the liberation of the future rather than its lockdown into the limits of the present. Using the scenario method based on morphological analysis makes it possible to consider a large number of exploratory and alternative scenarios based on a common analysis of the system's dynamics, while taking into account a high degree of uncertainties; however, it requires contrasted and imaginative assumptions. In comparison, a four-quadrant scenario method, which might seem appropriate for systems with some stability over time, allows for only a small degree of differentiation between scenarios and reduces uncertainties to two factors (the two axes of the quadrants), which structure the future of the system (Mora & de Lattre-Gasquet, 2018). Another way to avoid biases in the scenarios construction in times of crisis is to reprocess scenarios built before the crisis and adapt them taking into account the new events. This was the case for the scenarios from the European Commission DGRI (2020), which could not be part of our corpus as the date of publication was September 2020, but which illustrates a way of adapting existing scenarios to think the future during a crisis.

The first wave of the COVID-19 crisis led to substantial transformations in ways of life, with, in some cases, a challenge - at least in words, if not in practice - to the current growth model. These stances seemed, however, to be the product of an ephemeral reactiveness, even more ephemeral for that the "exit" from the first wave was, ultimately, a rapid one. The urgent issue, as described in these scenarios, was clearly not to rethink an alternative world, but rather to minimize the damage to the dominant system, to maintain it in being, perpetuating the prevalence of this used future. At the time of publication of this study, the second and then the third COVID-19 waves, both more serious than the first one, seem to have not prompted those who make it their mission to think the future to show greater imagination and creativity in exploring possible worlds beyond our familiar horizons. Given that our anticipatory systems enable us to discern or invent different forms of discontinuity (Miller, 2015), it is possible that we shall remain unable to rethink crises in the present time as moments of discontinuity opening up a range of possibilities, rather than moments of continuity that would go on and on, closing the range of possibilities. It is this challenge in terms of creativity and imagination that confronts societies today, and, most particularly, those whose mission it is to think the future. The challenge is to make the "wild card" that is the COVID-19 crisis an "X-event" which could in the long-term "... *open up as opportunities - clearing out existing structures that are no longer serving a useful purpose*" (Heinonen et al., 2017). A little more patience, perhaps?

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