INTRODUCTION

Emergency is social complexity

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Emergency is social complexity, a type of complexity that eludes any algorithm and/or statistic or probabilistic model.[1] It is, in fact a constitutive dimension of complex (adaptive) systems. Only a systemic approach to society can hope to integrate elements of emergency into the life-worlds by inhabiting complexity, without disrupting civilization each time a new and unexpected crisis raises its head, as though it were a wrench thrown into otherwise perfectly controlled works. It is the idea that society can be effectively controlled, and that future events will become more and more predictable, with the occasional exception of emergency situations that we have agreed to consider unavoidable "black swans", which is at the crux of this misleading perspective. In reality, these so-called black swans, which are likewise intrinsic to social systems, serve as all-too-easy justifications of the glitches in the systems we otherwise consider perfect. It is a reassuring perspective, in some ways fatalistic, with which we rationalize our inadequacies, our shortcomings, our incapacities to function in a non-reductionist, non-deterministic fashion, by telling ourselves that for certain events, certain perfect storms, there is nothing to be done, rather than learning how to encompass emergency, coping with it, as a natural occurrence within the complex interacting phenomena that make up our life systems, our ecosystems, and our hyperconnected civilizations. The other alternative, a desperately futile endeavor to put into place a system of total control and predictability, will eternally run up against the impossibility of ever controlling or foreseeing the evolution of a complex (living) system: "managing" complexity is a contradiction in terms, and emergency, as a connotative element of complex systems, needs to be understood as something we need to learn to live with by taking a truly systemic approach to our policies, our educational institutions, our communities and societies.

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In these last few years, the themes of risk, emergency and even calamity have been constantly – and emotionally – present in our lives and in our minds. Many people have pointed to the errors made by local, national and international governments and organizations regarding preparation and prevention for potential pandemics and similar situations. It cannot be denied, in fact, that in recent decades, there has been a tendency to slowly defund and reduce public healthcare systems in many countries across the globe, even in well-off states and nations, resulting in a lack of means, preparation, equipment and above all, of sufficient numbers of qualified doctors, nurses and staff capable of coping with emergency situations.

Apart from these factors, there are many who have decried a lack of equality and solidarity towards struggling nations, bearing witness to a visible "grab" on the part of wealthier countries of the first rounds of novel vaccines released in record time with the purpose of stemming the tide of what has been universally perceived as a highly lethal virus. And speaking of selfish and self-defeating behavior, there are those who have lamented a deliberate lack of coordination and cooperation among nation states, international institutions, and private players. Others go even further, pointing out that the choice of certain leading governments to entrust the production, management and sale-for-profit to private companies was immoral, when the executive powers and legal instruments for ordering emergency manufacture and distribution without copyright ownership, at the price of cost, were already available and foreseen by law for high-risk, emergency or catastrophic situations.

The question thus arises: what is the correct procedure to follow in the future to ensure that emergencies will be met with using more logical and systemic approaches? Once again, the most common "simple solution" (to a complex problem) that (too) many experts have come up with seems to be to fall back upon age-old reductionist and deterministic mindsets: so many voices are calling for stricter controls, greater surveillance, unanimous conformism, forgetting, as usual, that it is literally impossible, other than undesirable, to guarantee life by stifling it, or to endeavor to control and predict the unpredictable in a living and hence complex system. The only result will be a hardening into what is the opposite of life, and emergencies will still, nonetheless, overwhelm us – even more so, the more we fool ourselves into thinking that we have everything under control. For those who insist that the solution is simply to stake everything on scientific notions, scientific evidence, and scientific "proof", the question to ask is, just what exactly is science?

For some reason, the concept of science is becoming more and more dogmatically equated with fact, truth and certainty, and is being called upon to justify our grand illusions of rationality, control, and predictability, our grand illusions that everything is measurable and impermeable to error. But, as Richard Feynman often told us, science is quite the opposite of certainty – it is doubt. It means working with the eternally hypothetical, adopting the most logically acceptable hypothesis of the moment until it is proven false by an evidently contradictory event or until we develop a more powerful instrument that discovers something we had not previously been capable of observing. Even then, we will only move our hypothesis further one step, temporarily consolidating the most rational theory, without ever arriving at absolute certainty.

> It is imperative in science to doubt; it is absolutely necessary, for progress in science, to have uncertainty as a fundamental part of your inner nature. To make progress in understanding, we must remain modest and allow that we do not know. Nothing is certain or proved beyond all doubt. You investigate for curiosity, because it is *unknown,* not because you know the answer. And as you develop more information in the sciences, it is not that you are finding out the truth, but that you are finding out that this or that is more or less likely. (Robbins, 1999, pp. 247-248)

In other words, rigidity and dogma will not give us an accurate picture of the world. To be even clearer: «Science is the belief in the ignorance of experts» (Robbins, 1999, p. 207).

The special issue of this journal has been conceived with the objective of gathering together different perspectives on systemic risk and emergency and on the means to cope with the endless sequence of emergencies and "black swans" in our lives. Undoubtedly, the best way to ponder the past, present and future events that we are experiencing is to experiment with as many interdependent, interacting, interwoven facets as possible of our society, welcoming insights, points of view and suggestions from a wide a variety of authors in order to keep our minds flexible and succeed in inhabiting complexity.

The essays in this volume/journal, therefore, are examples of the exploration of emergency from many different angles, written by scholars from a variety of disciplines. It is precisely the interdisciplinary/multidisciplinary origin of this collection which gives it its true value. Like complexity itself, knowledge cannot be confined into separate channels and analyzed by objective observers – physicists have long explained to us that there is no such thing as an independent observation by an observer external to the system.

Every observer has an effect on what is observed and is, in turn, affected by it: sociology speaks of the "observer/participant". The greatest elements of weakness and fragility in our systems and organizations are linked precisely to our method of managing and rigidly separating the fields of knowledge and disciplines.

A brief introduction to the articles in this special issue

Breaking Free of Conceptual Frameworks and Learning how to Learn by Jacobs and Ramanathan focuses on the positive effects and opportunities for learning and transformation that have accompanied the Covid-19 pandemic. Unforeseeable advantages have been produced by this global emergency, including more intergovernmental interest in funding scientific and medical research, healthier lifestyles and environmental benefits brought about by the slowing down of business and travel, a widened appreciation of online learning and communication, and heightened international cooperation. These are just a few of the impacts which the authors believe can be harnessed in the future to transform obsolete mindsets and schemes into new social paradigms, as long as efforts are intensified to ensure a more equal and symmetric distribution of access to these instruments for all of humanity, rather than concentrating benefits among the wealthiest countries.

In *The storm of creative destruction. Understanding the "damage-remedy" logic of capitalism in times of pandemic*, the authors Iannone e Iannuzzi opine that the opposing ideological views (favourable vs. unfavourable) on capitalism should be considered as united opposites in visualizing a damage-remedy function called "creative destruction". As an example, the Covid-19 pandemic is described as (partially) caused by globalist capitalism and (partially) resolved by globalist capitalist entrepreneurship. The authors urge political direction of the forces of "creative destruction" toward a more scientific and less market-driven pathway, mentioning the pandemic as an example of how politics, as it functions today, has failed to do so. Overall, it is argued that that capitalism is an irremovable feature of society, and that its flexibility, variability, and capacity for replacing the obsolete with the new and better is a dynamic method for dealing with the crises of civilization.

In *The error role in risk perception,* the authors Corposanto and Molinari cite a number of interdisciplinary questions, ranging from sociology to quantum physics, to demonstrate that error inevitably exists in all complex systems and situations, indeed that a variety of errors co-exist in any given situation, more so in situations of risk and emergency, owing to the fact that

reality is in itself a series of interactions. All interactions produce unpredictable circumstances, the probability of error, is constantly present, deriving from issues of knowledge, perception, chance, instruments, roles, and other factors. Therefore, a linear or reductionist solution to any emergency, including the Covid-19 pandemic, will be unable to deal with, or even recognize, the wide range of errors, some simultaneous and others progressive or cascading. Naturally, this also involves the choice of communication tools and the kind of knowledge held by interacting communicators and social actors in general.

From criticism of protocols to criticism of diagnostic practice. The sociological contribution to psychiatric practice in an age of mental illness epidemics by Caniglia describes two different sociological approaches to some of the structural weaknesses characterizing official psychiatric protocols and practices, which tend to result in over-diagnoses of mental illnesses. The first approach is more critical of the discrepancies arising between officially standardized criteria and clinical choices psychiatrists need to make for patients, while the second, which the author considers more innovative, investigates the practical impacts that resources and social surroundings have on the physicians' choices. Considering the number of people who are currently being prescribed medications for mental issues, the author makes the point that the useful role that sociology could play would be to increase awareness among psychiatrists of "the social processes underlying" the current diagnostic "epidemic" of mental illnesses.

A bigger fear. Reloading Sorokin's Man and Society in Calamity by Pitasi presents a scenario based primarily on societal change, with a description of the social impact of calamity, whose nature, synthesizing concepts introduced in the 1940s by P. Sorokin, is described as exclusively short-term, although often passed off as long-term or even eternal by social manipulators. In contrast, the Malthusian prediction of inevitable social collapse by way of famine/over-population has been prevented by technology, according to the author. A mathematical model is cited to contend that highly accelerated conditions of inequality can trigger well-being throughout the general population, while slow-moving conditions of inequality tend to stagnate into a permanent situation. The author further warns that predicting worse-case scenarios and overestimating risk for the purpose of provoking behavioral changes in favor of sustainability can lead to more disastrous problems: better a policy of prevention and preparedness, opting for technological choices to combat obsolescence.

According to Petroccia, author of *Risk communication in calamity society,* traditional forms of extended social memory have been replaced by

media availability, in an era where global communication occurs simultaneously. In risk and emergency situations, communication has become even more essential owing to this extreme contemporaneity. Communication pathways in a global emergency, according to the author, should be coordinated and controlled by "a single and exclusive source legitimized to issue a central communication" considering that the media not only describe reality, but select which aspects of reality to describe, becoming reality itself, or the only way to perceive it. On the basis of the Covid-19 pandemic, the author anticipates a future need for an "active structuring of reality," in which, potentially, the communicative process does not only involve the transmission of information, but also the possibility of provoking a change in attitudes.

The three authors of *Emergency and deservingness: young people in the Italian pandemic debate*, Martelli, Pitti and Volturo, have approached the issue of the Covid-19 pandemic from the perspective of young Italians. Social and economic benefits, in the view of both the general public and the state, are evaluated according to a sort of scale of deservingness, on which it is difficult to place members of the younger generations. This scale includes concepts regarding need, attitude and identity, where the most needy, compliant and pleasant actors are considered the most deserving. In Italy, young people are mostly judged based on family conditions and on the level of instruction received. During the outbreak of the pandemic they were considered both relatively immune from danger and dangerous for others. Thus, a pre-existing common perception of the general un-deservingness of young people was reinforced by events during the pandemic, resulting in a lack of public and governmental support.

The pandemic and sustainable peace, a combination yet to be understood, by Iannone and Gurashi is, in the words of the authors, a "sociological reading of sustainable peace". Just as long-lasting peace cannot exist in conditions of poverty, inequality, environmental contamination, discrimination, environmental contamination, or oppression, pandemics cannot be effectively treated either in these conditions, according to the authors. They further specify that sustainable peace can only be obtained if all disadvantaged conditions relating to ecology, economy and equity have been solved. Practically speaking, if one condition is not fulfilled, the other conditions cannot be set in place, so that it is impossible to have, for example, peace without environmental sustainability or social equity. Any of the conditions described above would aggravate every kind of disease, including, of course, global outbreaks of epidemics or pandemics.

In *From emergency to emergence. Learning to inhabit complexity and to expect the unexpected* by Dominici, emergency is presented as a constitutive

element of complex systems, which cannot be managed or controlled. The author describes the difference between complicated and complex systems to underline the unpredictability and interdependency inherent to all living (complex) systems, including human beings, highlighting that unexpected "emergencies" are intrinsic to human societies. The constant interactions between parts (observer-participants) of these systems are what trigger the systems to self-organize; in this way, emergency becomes emergence. The author reminds us that inhabiting complexity means accepting uncertainty and error, while perceiving objects as systems, overstepping the "false dichotomies" between fields of knowledge. Great importance, therefore, is given to interdisciplinary education and training, which are the only tools for learning how to cope with the infinite sequences of emergencies in our lives.

References

Robbins J. (1999). *The pleasure of finding things out: the best short works of Richard Feynman*. Cambridge: Helix Books/Basic Books.