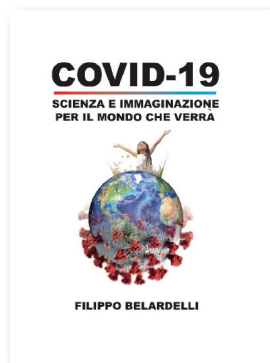


BOOK REVIEWS, NOTES AND COMMENTS

Edited by

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**COVID-19:
scienza e immaginazione
per il mondo che verrà**
Filippo Belardelli
2022; Kindle edition.
98 p.
[*COVID-19: Science and
imagination for the world to
come*]

Is it possible to report with simplicity and clarity the biological features and the disastrous consequences of a pandemic whose spread has created the tragic and surreal scenario in which we have been living in the last two years? After reading this little book of less than a hundred pages, the answer comes with a definitive yes.

The author, Filippo Belardelli, is a trustworthy scientist who likes to exploit an unassuming writing style to tackle the complex and tragic problems of this pandemic. First, the book accounts the fundamental discoveries in microbiology, with the explanation of what viruses and bacteria are and the meaning of the terms whereby the infectious disease spread is classified. Within this framework, putting COVID-19 into perspective with the great pandemics of the past, the current one loses its uniqueness as well as most of its anxiogenic potential.

Having transformed the pandemic into a natural event, the book reports how slow the World has been in perceiving its dramatic potential: the hesitation of the Chinese authorities first, then the contradictory behavior of the WHO in the first months, and last the unpreparedness of local authorities in facing such an unexpected event. Somehow our society was erroneously persuaded that human progress had made pandemics a thing of the past.

Then, with its clear and calm gaze, the book describes synthetically the features of the SARS-CoV-2, the clinical signs of the human disease, and the struggle between different mechanisms of the immune system and the invading virus. Here the Author cannot forget that he is one of the most authoritative researchers among those who have studied the mechanisms of innate immunity and the biology of the interferon system. Interferons are the key molecules that play a fundamental role in controlling the SARS-CoV-2 infection. After contagion, innate immunity mechanisms and a prompt interferons release are almost always able to control the viral invasion and block the spread of the infection. It is there-

fore obvious that the invading SARS-CoV-2 seeks and, in some cases, manages to sabotage this fundamental protection mechanism. The breadth of the infection is directly dependent on how effective is the virus's ability to interfere with the production of interferons. Furthermore, even marginal deficiencies in the ability to produce interferons of the infected person can give rise to serious COVID-19. The need for large clinical trials to validate the new treatments and the mechanism by which the newly arrived anti-viral drugs are working is then progressively illustrated. Then, a brief description of the origin of vaccination and the importance of vaccines introduces an accurate presentation of the different technological platforms on which COVID-19 vaccines have been developed. Lastly, thanks to the speed of "online" publications, the book already provides an accurate assessment of the current pandemic situation where the vaccines are confronted with the highly infectious and antigenically mutated omicron variant.

At this point, the narrative of the book changes register, passing from the description and explanation of the events connected to COVID-19 to their ethical evaluation. When confronted with the pandemic, the socioeconomic differences between rich and poor countries of the World take on cruder aspects that are ethically more difficult to accept. The much-proclaimed goal of a "Universal Health Coverage", that is, that all individuals on Earth have the right to access essential prevention and treatment services, is almost countered by the even more serious issue of hunger - the most evident consequence of the above-mentioned inequalities. Only in the next few years, it will be possible to assess how much COVID-19 has impacted the health, hunger, and food insecurity of millions of people in Asia, Africa, Latin America, and the Caribbean.

However, as highlighted already by the book subtitle (*Science and imagination for the world to come*), imagination is a fundamental aspect of scientific research. Thanks to imagination it is possible to make innovative hypotheses. Thus, in the last chapters of the book, the "realistic dreams" of the Author lead us to imagine how new methodological approaches, including personalized medicine and the exploitation of the off-target efficacy of vaccines, could lead to completely new therapeutic scenarios. Keeping with this vision, the book ends with a discussion of nine critical issues: nine lessons for change that the pandemic has taught the author as a scientist. Suggestions that spur towards society no longer based only on the logic of profit and competition between governments, international organizations, and pharmaceutical companies. The dream is about a society aimed at structurally solving the problems of poverty, inequality, and the environment. A society in which



scientific research should be increasingly oriented towards the health of the citizen and the development of knowledge and education. To build this new social scenario a major boost of imagination and perseverance is required. Thus, the last dream is that the required great “wing stroke” could be achieved by the younger generation. After having better focused some of the many

issues related to the pandemic guided by the calm and clear narration of this book, the reader cannot but hope that the author may really be right.

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