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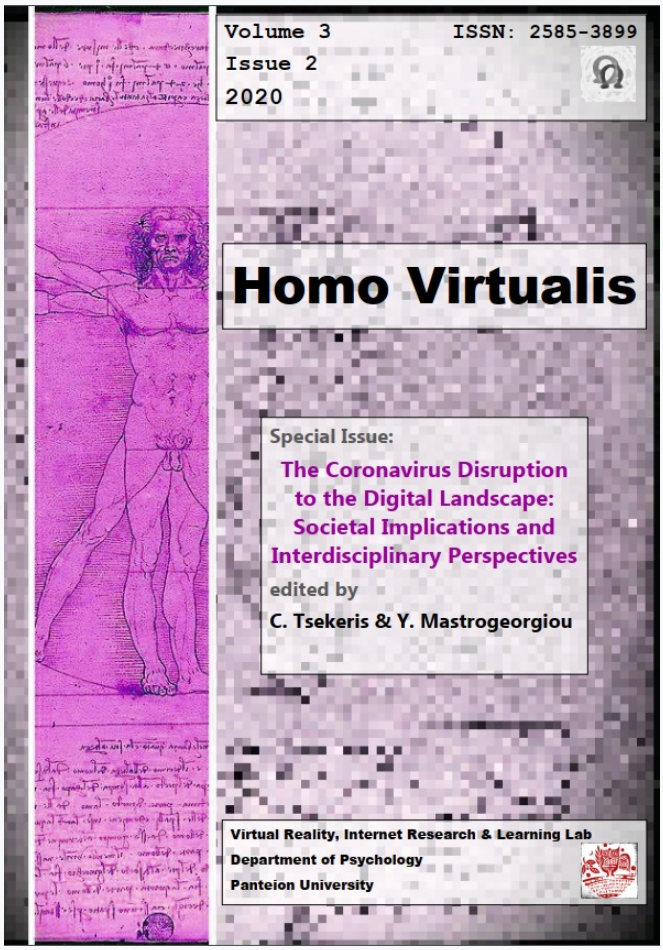

Contextualising COVID-19 as a Digital Pandemic

Charalambos Tsekeris, Yannis Mastrogeorgiou

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Editorial

Contextualising COVID-19 as a Digital Pandemic

Charalambos Tsekeris[1], Yannis Mastrogeorgiou[2]

Abstract: Growing systemic complexity and interdependence have made a large variety of systems (economic, public health, cyber, etc.) susceptible to irreversible and cascading failure. The coronavirus (COVID-19) pandemic is indicative of such complexity and currently causing vast human suffering all around the world, but also triggers a global online revolution with new opportunities, risks, threats and dangers. Starting from its description as the world's first digital pandemic, the central aim of this editorial is to contextualise Homo Virtualis's special issue on the COVID-19 disruption to the digital landscape and its societal impact. A concise overview of such disruption is presented and a few examples are given, along with a variety of interdisciplinary perspectives on mediatisation and globalisation, with special emphasis on Globalisation 4.0 and the transition to Artificial Intelligence Society.

Keywords: coronavirus crisis, COVID-19 disruption, digital pandemic, sustainability, mediatisation, conspiracy theories, Globalisation 4.0, Artificial Intelligence Society, Greece

Introduction

The COVID-19 pandemic undoubtedly involves something more than a virus; it is a massive global health crisis that causes vast human suffering and places significant burdens and threats on individuals, communities, societies, states and nations, requiring from people and technological systems large-scale behaviour change (Bavel et al., 2020). In this regard, it pertains to a complex convergence of biology, technoscience and geopolitics. As Eric Woods et al. (2020) put it, COVID-19 has a

[1] Research Fellow (Assistant Professor rank), National Centre for Social Research (EKKE), Athens, Greece. E-mail: tsekeris@ekke.gr
[2] PhDc, Department of History and Philosophy of Science, National and Kapodistrian University of Athens, Greece. E-mail: ymastro@phs.uoa.gr

huge potential to trigger multiple, cascading crises in nearly every aspect of human activity, as well as to induce disruption and uncertainty. In the same line, the pandemic pertains to a *total social fact*, in Marcel Mauss's sense, manifested as an unexpected chain of ruptures in everyday life (Kasuga, 2020) and in the myriad online worlds: "at the level of virtual reality and the internet, we should remind ourselves that, in the last decades, the terms 'virus' and 'viral' were mostly used to designate digital viruses that infected our web-space and of which we were not aware … What we see now is a massive return to the original literal meaning of the term: viral infections work hand in hand in both dimensions, real and virtual" (Žižek, 2020, p. 44). In such analytical setting, the central aim of this editorial is to contextualise Homo Virtualis's special issue on the COVID-19 disruption to the digital landscape and its societal impact, especially emphasising on mediatisation, Globalisation 4.0, and the transition to Artificial Intelligence Society, as well as on current digital developments in Greece.

World's first digital pandemic

Overall, the pandemic is imposing itself "physically and virtually, as an image, with unprecedented and expanding force, condensing time and space worldwide in the most critical way" (Demertzis & Eyerman, 2020, p. 3). We are all experiencing the greatest disruption of our lifetimes and tend to embrace working and learning and buying online as the *new normal*.[3] With little warning and – more importantly – even less preparation (Cole, 2020):

> Most of our jobs, if we still have them, are now online. We are living our lives in the world of Zoom. In-person classes at all schools are cancelled, probably for the rest of the school year, as instruction moves online – for those schools that are prepared for it. And the teachers running these online classes have mostly never taught this way and need to get up to speed – quickly. Some people who previously resisted using ATMs now, out of safety concerns, have moved to online banking and online bill pay. We are learning – not by choice, but by necessity – how to live on the internet 24/7. The lucky ones – those of us who already have experience working and transacting online with dedicated workspace in well-connected homes with plenty of bandwidth – may be more productive than ever. Others, whose jobs do not translate to digital or who lack basic hardware with fast enough connections, are at a major disadvantage; those folks now worry about how their lives will be permanently changed whenever this is all over.

In a way, this once-in-a lifetime massive health crisis is a *world-historic event* (Tsekeris & Zeri, 2020a, 2020b) which mostly derives its meaning in the light of the overwhelming technological development, including social media and Industry 4.0.[4]

[3] For a similar discussion, see https://www.moreincommon.com/newnormal/

[4] Notably, Industry 4.0 (Fourth Industrial Revolution, or Cyber-Physical Systems), by definition, signifies the dynamic intersection between humanity and technology, something which radically alters the very nature of human experience (Schwab, 2016; Mastrogeorgiou, 2018). According to Klaus Schwab and Thierry Malleret

That is, COVID-19 can be arguably described as the *world's first digital pandemic* in terms of (Okano-Heijmans, 2020):[5]

1) its origin: "the enormous spread of the coronavirus was made possible by the Chinese government's restrictions on the digital dissemination of information. News, including warnings, about early cases of the then unknown infection were banned on social media";
2) its effect: "Governments around the world are resorting to digital instruments to combat the virus. Artificial intelligence and big data analysis play a valuable role herein".

In addition, COVID-19 is a digital pandemic in terms of its dynamics. It sheds light on the evolving, intricate and intrinsic "connection among the government, citizens and data. This connection is powered by the ever more astounding advances in information and communication technology (ICT) and, even more so, by our ability to make sense of large sets of data" (Visvizi & Lytras, 2020, p. 125).

Last but not least, COVID-19 is irreducibly *mediatised*, that is, inextricably linked to the expanding sphere of digital media and online networks. Individuals shape a synthetic experience of the pandemic, in variable proportions; either as infected or as locked down at home (Demertzis & Eyerman, 2020, p. 4):

> They live the pandemic through first-hand experience and through the information disseminated by the communications media. The aesthetics of media coverage (dramatization, personalization, fragmentation) are likely to affect the way viewers perceive the health crisis and the concomitant risks. With a lack of effective medical care and the much sought-after vaccine, an individual's need for orientation increases all the more. This need for orientation is contingent upon the relevance of an issue for that individuals' life interests, and the degree of certainty they have concerning their knowledge about it. Whenever an issue is highly relevant to one's personal agenda and one's information and knowledge about it is limited, the need for orientation increases. Therefore, a person's media dependency increases and the media agenda setting effect rises with conspiracy theories being a possible side effect. With both the radical diversity in media access and representation, the conflict over what happened and who is responsible intensifies, adding more uncertainty with regard to orientation. Who is one to believe?

In fact, cognitive and negativity biases have great impact upon how we process or consume news (McIntyre, 2020). Our brain's confirmation bias drives us to seek out only information which is aligned with what we already believe and to discredit the rest. Biases like these can prevent people from learning from news about COVID-19 and fight it effectively (McIntyre, 2020), also making individuals and groups more

(2020), the world is now facing a "defining moment" as the COVID-19 pandemic enables digital technologies to extend their almost uncontrolled reach into every aspect of life.

[5] See also Hantrais et al. (2020).

vulnerable to the so-called "infodemic".[6] But, in the pandemic society, people often live in personal emergency situations, which can overturn in a genuine self-contained world of delusion, thus reflecting the enormous fragility of the human psyche. This helps the flourishing of corona conspiracy theories across all segments of society (Bavel et al., 2020, p. 464ff.), as well as of toxic public discourses.[7]

In times of helplessness and lack of stability, because important psychological needs are frustrated, conspiracy theories function as an instrument of personal crisis management (Douglas et al., 2017). Social media architecture and protocols somehow facilitate and amplify the spread of false information, disinformation,[8] misinformation, rumours, mass panic and fake news about the coronavirus around the world,[9] despite the coordinated efforts by the EU[10] and some digital platform companies (Frenkel et al., 2020). Recent empirical findings also point to the deep psychological roots of conspiracy beliefs and the strong difficulties to dismantle them (Gemenis, 2020). In this context, Jan Philipp Reemtsma (2020) stresses that political thinking is overestimated and, actually, affects play a crucial role (see also Demertzis, 2020). People rarely have a political way of thinking (Reemtsma, 2020).

Globalisation 4.0 and the transition to Artificial Intelligence Society

Furthermore, today's highly interdependent world corresponds to a model of data-driven networked society produced by the new phase of globalisation, i.e. Globalisation 4.0, which is fundamentally characterised by the constant increase of exchanges, interactions and interconnections of digital and virtual systems between countries, as well as by the rapid diffusion and circulation of information, knowledge, innovation, ideas and services (Baldwin, 2019). This model strives to adapt to unexpected threats, turbulences and difficult contexts, such as the COVID-19 context. Perhaps it is still too early to foresee whether the coronavirus crisis will trigger (uncontrollable) adverse societal changes in the prospective reality of a (serious) global economic recession,[11] or the tendency of the global system to be dynamically

[6] In addition to the COVID-19 pandemic, the overabundance of information, which obfuscates reliable guidance, creates an unprecedented "infodemic", according to the Director-General of the World Health Organisation (European Commission, 2020b).

[7] See https://reutersinstitute.politics.ox.ac.uk/volume-and-patterns-toxicity-social-media-conversations-during-covid-19-pandemic

[8] In the last instance, the pandemic "confirmed and accelerated an extant trend in the causal dynamics of disinformation, and its normalisation and domestication. 'Normalisation' highlighted how misleading information became an almost expected and routine feature of the ways in which a profoundly polluted media ecosystem responds to public crises" (Hantrais et al., 2020, p. 10).

[9] "In the pursuit of biological cures and vaccines against the virus, the socio-political infrastructure of the human ecosystem has been sadly neglected. Added to that is the plethora of misinformation that has led to stigma, xenophobia and panic in interpersonal, social and political domains. COVID-19 in that sense is a 'digital pandemic' in which the 'tension and chaos' spread faster than the virus itself" (Banerjee et al., 2020). No doubt, COVID-19 significantly disrupts and transforms the online information ecosystem (Persily & Tucker, 2020). See also Abrahams and Lim (2020).

[10] Indicatively, see https://euvsdisinfo.eu/

[11] https://www.oecd.org/about/secretary-general/launch-of-the-2020-employment-outlook-july-2020.htm

reintegrated at a higher level of complexity and growth will prevail (thus avoiding a descent into chaos). Besides, the process of digitalisation itself is highly unpredictable.[12]

Nevertheless, it seems that COVID-19 (as a driving force) is *speeding up Globalisation 4.0*, where digitech allows arbitrage of international wage differences without the physical movement of workers, while *slowing down Globalisation 3.0* (or the global value chain revolution), where factories were crossing borders, transferring the knowhow of G7 firms to emerging economies (Baldwin, 2018). This actually brings some hope and optimism since Globalisation 4.0 is promising a more sustainable,[13] reasonable and balanced version of globalisation, led by responsible innovation, inclusiveness, shared benefits and tolerance.[14] Moreover, it can be argued that the "digital pandemic" is further strengthening the *platform economy* (where AI-augmented services thrive and immaterial or intangible goods are increasingly shared)[15] and transforming global government in a dynamic fashion, albeit the scale of that impact is still largely unknown (Visvizi & Lytras, 2020, p. 126).

What is also obviously being speeded up by COVID-19 is the adoption of Artificial Intelligence,[16] as well as the ongoing transition to the so-called *Artificial Intelligence Society*. Two years ago, elaborating on his evolutionary theory of modernisation, the American political scientist Ronald F. Inglehart (2018) suggests the possible influence of the "coming Artificial Intelligence Society" (AI society), an advanced phase of the Knowledge Society, which produces *higher inequality* for two reasons. On the one hand, top knowledge products have high value added and only few owners – a winner-takes-all economy that is overconcentrating wealth and political power in the hands of a small minority (tech giants).[17] On the other hand, automation processes

[12] In fact, positive and negative aspects (cures and curses) of digitalisation and Industry 4.0 mutually co-exist and co-evolve in the same relational context, thus signifying an analytical move from dualism to duality, beyond the one-sided zero-sum game logic of "either-or" (Demertzis & Tsekeris, 2018; Tsekeris, 2018).

[13] In this regard, any desired transition towards sustainability can only be effective if far-reaching lifestyle changes complement technological advancements. However, existing societies, economies and cultures incite consumption expansion. In addition, the structural imperative for growth and affluence in competitive market economies inhibits necessary societal change (Wiedmann et al., 2020). In overall, "we need to change not only our lifestyle but our perspective" (Sarkissian, 2020).

[14] https://www.centralbanking.com/central-banks/economics/3456156/shifting-to-globalisation-40

[15] https://www.weforum.org/agenda/2020/11/digitalization-platform-economy-covid-recovery/

[16] In the COVID-19 context, Artificial Intelligence is being used extensively and in various forms, with many applications aimed to track the coronavirus in real time, to predict accurately where it might appear next, to forecast which types of populations would be most at risk, and to facilitate the development of an effective vaccine (Hantrais et al., 2020, p. 4). But all these raise ethical issues such as those assumed by the European Commission (2020a) and the OECD.AI Policy Observatory (2019).

[17] Tech giants, which become more powerful within the COVID-19 condition, greatly benefit from so-called network effects: "The larger the network gets, the more useful it becomes to its users, which creates a positive feedback loop that leads a single company to dominate the market. Unlike traditional firms, companies in the digital space do not compete for market share; they compete for the market itself. First movers can entrench themselves and make further competition impossible. They can swallow up potential rivals, as Facebook did by purchasing Instagram and WhatsApp. […] The economic case for reining in Big Tech is complicated. But there is a much more convincing political case. Internet platforms cause political harms that are far more alarming than any economic damage they create. Their real danger is not that they distort markets; it is that they threaten democracy" (Fukuyama et al., 2021).

and computer programs tend to substitute labour, thus diminishing employment even in higher educated sectors, so that "virtually everyone's job can be automated" (Inglehart, 2018, p. 201).[18] However, the future of work in the post-COVID-19 era is still at stake. And although the corona crisis has indeed strengthened inequalities (especially digital or technological inequalities and divides[19]) and exposed the vulnerabilities of individuals, societies and economies, new business models and socioeconomic activities are being organised,[20] on the fundamental basis of solidarity, co-operation and responsibility (see Visvizi & Lytras, 2020).

Also, international AI governance (and international cyber governance in general) is urgently needed at many levels, along with more of "effective multilateralism" (Bouchard et al., 2013). Despite AI's huge potential to improve our prosperity and health, if used on behalf of society as a whole, it is possible for the workforce to be further squeezed, with the danger of reinforcement of authoritarian populism and polarisation. Fundamentally, according to Inglehart (2018), the new political cleavage is nowadays between reformism and authoritarian or xenophobic populism, which can arguably be tackled by greater income equality, social protection, and inclusive labour markets and public policies. In such theoretical setting, within contemporary digital societies (possessing abundant and growing resources), *technological inequality is far more probable and impactful than technological unemployment*. In fact, the former seems to undermine existential security for most of the population.[21] Therefore, the reduction of technological inequality should be a critical priority for future-oriented post-COVID-19 policymaking interventions.

As far as Greece is concerned, the country has a unique historic opportunity to anticipate and set up new, strategic and evidence-based priorities and actions to do better in the future, especially to enhance its economic and societal resilience and anti-fragility.[22] Urgent, holistic future-oriented policies must help build digital human, social and institutional capital at the same time, while mobilising both public and private sector to play a key role in further upgrading digitalisation, as well as in the twining of digital and green transitions, fully exploiting the Next Generation EU recovery package to energetically contribute to this strategic objective. The country must also exploit the fast networked dynamics of the emergent, collaborative platform economy, which provides for a wide range of jobs and roles, while ensuring the principle of human dignity, justice, inclusiveness, security, equal opportunity, and

[18] Cf. the work by Mastrogeorgiou (2020). Nowadays, automation processes combined with COVID-related recession lead to *double disruption* scenarios for billions of workers all over the world.
[19] https://www.oii.ox.ac.uk/blog/covid-19-and-the-digital-divides/
[20] See http://www.oecd.org/coronavirus/policy-responses/social-economy-and-the-covid-19-crisis-current-and-future-roles-f904b89f/
[21] "Insecurity today results from growing inequality – which is ultimately a political question. With appropriate political realignment, governments could be elected that restored the high levels of existential security that were conducive to the increasingly confident and tolerant societies that emerged in the postwar era" (Inglehart, 2018, p. 14). See also Chancel (2020).
[22] We use this term in N. N. Taleb's (2012) sense. See also Bryce et al. (2020).

the potential of "decent digiwork".[23] What is eventually needed is an entirely different mindset in society, that is, a mindset which actively embraces the complexity and uncertainty of the connected and accelerated digital environment, translating speed into adaptiveness, and risks into opportunities for all (Tsekeris, 2020).[24]

A practical demonstration of the crisis-as-opportunity rationale[25] is the ongoing digitisation of the Greek public services, which has already been remarkably accelerated with the launch of the governmental portal Gov.gr, providing more than 670 e-services. The Greek Ministry of Digital Governance has also helped teleworking of critical public services to more than 10,000 employees and provided a platform for all public bodies to conduct secure and high-quality teleconferences. Notably, processes of teleworking and teleconferencing are here to stay, since they are more economically and environmentally sustainable. Yet, issues of interoperability, data policy, civil liability, intellectual property rights, technoethics, and digital sovereignty need to be further addressed.

Contents

The present special issue is comprised of four valuable original (peer-reviewed) scholarly contributions, which advance understanding of the COVID-19 disruption in various (digital) landscapes, as well as of the interdisciplinary issues emerging from such disruption. The first paper, by Leandros Kyriakopoulos, addresses the topic of Viral Economies, focusing on the pandemic as the multiplication of the materiality of a virus within channels of biological, informational and communication networks, technopolitical institutions, and state structures. Two examples are taken: the first one concerns the speed with which one third of the world's population was quarantined; the second one pertains to the readiness of the material-technical infrastructure and political planning to "upload" a huge number of social and labour activities on digital platforms. Kyriakopoulos also examines the analytical question of the general acceptance of the quarantine, as well as its wide characterisation as "social distancing". Referring to the pandemic event and the case of China, the article is based on the assumption that viruses like SARS-CoV-2 (or COVID-19) are treated in terms of cybernetics as mimetic agents that penetrate different biological systems in uncharted ways, being able to infect them with equally unknown sequence.

The second paper, by Rania Lampou, focuses on the complex relationship between ongoing socioeconomic changes, digital technologies and neuroeducation during the COVID-19 era. The article stresses the importance of teleconsultations and the treating of COVID-19 at home with clinical monitoring, the usefulness of online

[23] https://www.socialeurope.eu/the-future-of-work-in-the-post-covid-19-digital-era
[24] For current research developments on the internet use in Greece, see Tsekeris et al. (2020).
[25] Indicatively, see Yuval Noah Harari's interview with the *UNESCO Courier*, https://en.unesco.org/courier/2020-3/yuval-noah-harari-every-crisis-also-opportunity

training for healthcare professionals in rural and remote areas, and of contact tracing for the control of the pandemic. Special emphasis is put on the role of digital technologies in education during the pandemic outbreak (i.e. homeschooling, change of the teacher role, international teacher cooperation, and so on), as well as on the negative aspects of the computer-mediated learning process in comparison to the learning through interaction. Particular attention is given to the risks for children from their exposure to the internet (inappropriate content, cyberbullying, misinformation related to health issues, violation of private protection guidelines) and to the existing digital divide because of the socioeconomic differences among parents and the deep educational gap, something that became evident during the lockdown. Lampou elaborates on the appropriate measures the teachers take in order to eliminate the negative factors of the distant learning and to tackle the new challenges of digital learning and teaching. She eventually describes the importance of the transition time after the reopening of schools in the post-COVID-19 era and the techniques that must be developed in order to help the children to process the traumatic experiences of the quarantine.

The third paper, by Eleni Timplalexi, highlights the COVID-19 digital dynamics for the field of theatre and performance, carefully examining its potential significance and side-effects and providing a number of empirical examples. The author offers an overview of the implications of the online performances (conducted by art professionals) and describes the difference between the material modality of theatre and that of the computer or smartphone, as well as the immense distance between the semiotic qualities of a live theatre performance and those of a filmed version of it presented online. In this research framework, they are investigated the particular implications *for the artists of the online performances* (the artistic performances on the web are received and evaluated alongside prosumer amateur content on the same conceptual and aesthetic basis), as well as *for art critique* (that has to be reconsidered as irrelevant in the digital context) and *for the spectators* (our experience of watching becomes spatiotemporally fragmented on the computer monitor screen). Eventually, the article highlights opportunities for creative intermedia discourse in the field of web performances during the COVID-19 pandemic.

The fourth paper, by Athanasios Chymis, comprehensively discusses the aforementioned transition to AI society, which has apparently been facilitated in a catalytic manner by the COVID-19 condition and may have numerous risks. The author elaborates on how *AI and COVID-19 mutually affect each other* within contemporary human societies, adding up the critical perspective to use AI in a responsible and ethical way (without fearing it) that includes and benefits the whole humanity. Chymis particularly emphasises on some of the most important COVID-19 disruptive effects related to the socioeconomic and political sphere of human life (from poverty and education to income inequality and the declining quality of democracy at global level). He also points out that national governments, the private

sector, civil society, academic institutions and international organisations have a significant role to play in mitigating any AI disadvantages and in advancing global cooperation against COVID-19, as well as in promoting AI's potential impact on the 17 Sustainable Development Goals (SDGs) of the United Nations (UN) 2030 Agenda.

Artificial intelligence thus seems to lead humanity to uncharted waters, an extended region of bifurcation with high fluctuations and abrupt changes, a historic existential crossroad, where the new and the innovative ought to displace the old and the obsolete in a complex and dynamic process. However, this critical process must be fair and inclusive: "Humanity demands that in the march of civilisation we take our weak and vulnerable along with us, even if we have to carry them on our shoulders. But this needs international consensus not to remain just a wish, but to become a reality" (Sharfuddin, 2020, p. 257).

Final thoughts and concluding remarks

In conclusion, the shared global experience of the coronavirus pandemic pulls the whole world into different (digital) futures and arguably paves the way for a post-normal condition, which is strongly characterised by permanent disruption, ignorance and uncertainty (i.e. ignorance nurtures uncertainty); its main feature is that "the very nature of change is changing. Thus, we stand with no certainty of any return to a past we once knew and no true sense of a way forward" (Mayo, 2020, p. 70). This novel conditioning is intimately entwined with digital culture, thus instigating "a shift in the way we conceive of selfhood, authority, knowledge, reality and power" (Mayo, 2020, p. 69; Buheji & Ahmed, 2020). Most importantly, the pandemic further digitalises our networked present and future, highlighting the pressing need to imaginatively reconfigure alternative modes and paths of perceiving, learning and understanding.

Hopefully, a new reformist framework for the digital society is on its way – "one based on decentralization, the right to maintain one's private sphere, and freedom to choose" (Helbing, 2020). The digital disruption brought on by COVID-19 accelerates the Fourth Industrial Revolution and makes it incumbent upon leaders and stakeholders to proactively shape the new phase of globalisation (Globalisation 4.0), as well as to creatively reflect on cultural values and knowledge of complex systems, as a means to adapt institutions and organisational structures and help them function despite unexpected threats. COVID-19 disruptive changes, often at an exponential pace (exceeding sufficient knowledge resources), require heightened autonomy, agile and nonlinear models of governance,[26] responsible innovation, and new communication (soft) skillsets within sustainable organisational cultures, in order

[26] See e.g. the Armenian President Armen Sarkissian's substantial and original argument on *quantum politics*, that is, how quantum physics inspired him in the difficult fight against COVID-19 (Sarkissian, 2020). In the same sense, a *quantum strategic leadership* approach is required to embrace complexity and nonlinearity, catalyse diversification and collective intelligence, and anticipate a new ethics and creative destruction at different levels.

to retain integrity, boost resilience and thrive.[27] They also urgently require strategic foresight, in the sense of focusing on long-term trends and identify areas in which policy, research and technological developments are most likely to drive societal, economic and environmental progress.[28] It is high time to reimagine, reinvent and chart out our post-pandemic trajectories.

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[27] For relevant interdisciplinary discussions, see Swanepoel (2020) and Tsekeris (2019).

[28] See "President-elect von der Leyen's Mission Letter to Maroš Šefčovič" (October 1, 2019), https://www.eudebates.tv/eu_elections_2019/foresight-is-not-the-crystal-ball-eu-commissioner-explains/. As far as strategic foresight is concerned, it is notable that in the WEF 2020 Global Risk Report, "infectious disease ranked third last in likelihood (behind only weapons of mass destruction and unimaginable inflation) and tenth in potential impact. Surprisingly, it was also regarded as one of the least inter-connected risks" (Gössling, Scott & Hall, 2020, p. 6). Interestingly, many scholars have recently pointed out longstanding foresight failures and the neglect, ignorance, underestimation or misreading of relevant weak signals (see e.g. Kiel, 2020; Petropoulos & Makridakis, 2020).

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Notes on Contributors

Charalambos Tsekeris (PhD) is Research Fellow (Assistant Professor rank) in Digital Sociology at the National Centre for Social Research, Athens, Greece; Professor Extraordinary at the School of Public Leadership, Stellenbosch University; and Academic Head at European Communication Institute. He has also been an Associate at Virtual Reality, Internet Research & eLearning Laboratory (Department of Psychology, Athens Panteion University); iSportManagement LAB (Department of Sports Organization & Management, Faculty of Human Movement & Quality of Life Sciences, University of Peloponnese); Research Centre for Greek Society (Academy of Athens); and the Anti-Corruption Centre for Education & Research (Stellenbosch University). Prof. Tsekeris is Principal Investigator of the World Internet Project-Greece and has authored more than 100 scholarly papers and one book from the Academy of Athens (also edited 3 books from Routledge). His current research involves the dynamics of digital society and economy in contemporary Greece.

Yannis Mastrogeorgiou is the Secretary General for Communication and Media in the Presidency of the Greek Government. He previously was Director General of the Konstantinos Karamanlis Institute of Democracy, the in-house, non-profit policy corporation of Nea Democratia party, and Director of DIKTIO – Network for Reform in Greece and Europe, a leading Athens-based think tank. Yannis has also served as Director of Communications of the Greek Ministry of Education and Religious Affairs, as Adviser in the Hellenic Parliament and as Special Adviser to the Minister of Development, Competitiveness and Shipping. He has also worked as communication adviser with multinational companies and was a Marshall Memorial Fellow in the GMF. Yannis has studied history, international relations, journalism and European Affairs. He is currently a PhD candidate at the University of Athens, researching the impact of the Fourth Industrial Revolution on the Greek society. Yannis championed the discourse on AI in Greece, having published three books and several articles. His most recent book *Artificial Intelligence and Humans: An Endeavour to Understand our Age* was published in Spring 2020 by Papadopoulos House.