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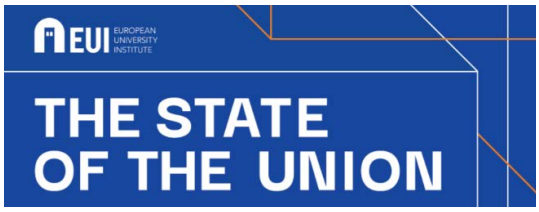

From 4 to 6 May 2023, the State of the Union took place in Florence (Italy) with focus on ***'Building Europe in times of uncertainty'.***

Former EP and FMA President ***Enrique Barón Crespo*** *and FMA Vice-President* ***Monica Baldi*** *represented the FMA.* © EUI

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CALL FOR CONTRIBUTIONS

The Editorial Board would like to thank all those members who took the time to contribute to this issue of the FMA Bulletin. We would like to draw your attention to the fact that the decision to include an article lies with the FMA Editorial Board and, in principle, contributions from members who are not up-to-date with the payment of the membership fee will not be included. Due to the long time lag between the call for contribution and the publication, some articles may be outdated.

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DIGITAL GLOBAL OBSERVATORIES

HOW DIGITAL TWINS CAN HELP SHAPING OUR COMMON FUTURE IN TIMES OF INCREASING UNCERTAINTY AND UNSETTLED LIVES?

How far advanced computing together with design and use of digital twins can help shape our common future in times of increasing uncertainty and unsettled lives? This question has motivated the organization of the 6th Gago Conference on European Science Policy, 23-24 October 2023, in Barcelona[1], in an way to discuss challenges and opportunities for digital twins in health, urban planning and the environment to consider human agency[2], be centered on people and be based on changing collective behaviors leading us to safer, cleaner and more "collectively" resilient and cooperative societies.

The context

Recent unexpected threats to our common safety and public goods, including public health, such as the Covid-19 pandemic, the increasing activity of individual digital terrorism and the Russian invasion of Ukraine, have shown that our societies are not as safe as we thought. In association with the climate disaster we all are facing, demographic forecasts and the tensions resulting from increasing water scarcity affecting the world's most vulnerable communities, we are facing unprecedented threats that should foster a clear call for action.

The analysis clearly shows that every forecast for world societies in the coming decades will be strongly affected by the emerging trends in the growing digitalization of our communities and economies. It includes the increasing world relevance of the Global South and the critically relevant role of European led cooperation.[3]

Advantages and Threats

Although the advantages and disadvantages of digital observation and governance based on centralized and decentralized digital networks are still subject to many uncertainties requiring comprehensive technical and policy debates, the use of advanced computing together with decentralized digital networks and blockchain control is only partially immune to biases.

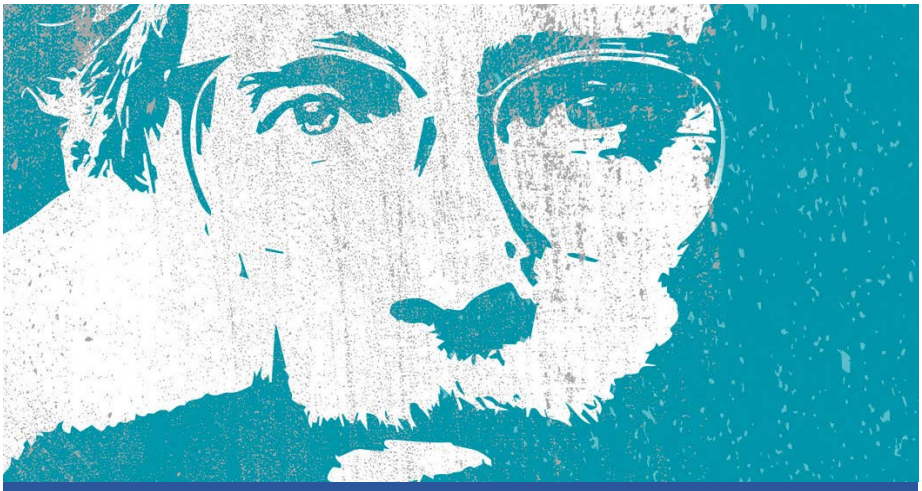
Blockchain algorithms incentivize and ultimately give preference to participants that have access to more nodes, therefore, to the most active ones. Artificial Intelligence (AI) can help by modelling the information flows and learning different participants' critical use patterns. Such practices can then provide input to set the parameters that govern the behavior of blockchain algorithms.

However, the massified use of AI-enabled innovations is also not free of additional questions because the "power it has to make us act in the ways it predicts reduces our agency over the ture".[4]

In predicting our behavior, AI systems can end up changing it. Consequently, collective human wisdom needs to be strengthened so that emerging regulatory issues for an increasing digital age should help promote critical approaches to AI, with clear accountability and clarity about boundaries and purpose, as well as responsibility.[5]

1 Details in: https://www.cienciaviva.pt/gagoconf/6th-edition.
2 See details and definition at UNDP (2022), https://hdr.undp.org/content/human-development-report-2021-22.

3 See the platform K4P Alliances: https://k4palliances.com/.



Logo of the Gago Conference, organised this year on 23-24 October 2023 © Ciência Viva

4 Helga Nowotny (2021), "In AI we Trust: power, Illusion and Control of predictive algorithms", Polity Books
5 Thelisson, E., Morin, J.-H., Rochel, J. (2019), "AI Governance: digital resposability as a building block", 2 DELPHI 167

"However, the massified use of AI-enabled innovations is also not free of additional questions because the power it has to make us act in the ways it predicts reduces our agency over the future."

It requires rethinking of the techno-centric narrative of progress, embracing and harnessing uncertainty, as well as abandoning the fantasy of control over nature and the illusion of techno-centric dominance of AI-enabled innovations.[6] The issue is clear in that it creates tensions between developers/promoters and human-led policy making, which need to be informed by negotiations of trade-offs. Above all, it requires a transdisciplinary approach to collective behaviors[7] and consideration of "human agency" across economics, philosophy, law, science and technology studies, history and sociology to engage with all the necessary ingredients of an emerging decentralized digital age and AI-enabled innovations.

The policy debate

Following Joseph Henrich (2016)[8], among others, we know that our collective brains arise from the synthesis of our cultural and social natures and that larger and more interconnect societies produce more "know-how".

6 Karamjit S. Gill (2022), Book review, "Nowotny 2021: In AI we trust", AI& Society, January 2021
7 See, for example, the work of Bak-Coleman et al (2021), "Stewardship of global collective behavior", Proceedings of the National Academy of Sciences, June 21, 2021.
8 J. Henrich (2016), "The secret of our success: how culture is driving human evolution, domesticating our species, and making us smarter", Princeton University Press.

The rationale for this discussion also relies on the fact that the climate crisis is probably the biggest challenge humanity is facing. The Paris Agreement is perhaps the most impactful health agreement of the 21st century"[9], however, there is no sustainable development without guaranteeing the rights of all people. Future actions must take into account the connection between the "ecological footprint" indicators and those associated with the "social footprint" (i.e., poverty, inequality, and violation of basic rights).

The latter means changing and developing green/blue economies and healthier societies.

It means changing our daily routines and work habits, as well as our cities, transport, agriculture, and industry, in a way achieving a balance between the carbon emitted into the atmosphere and the carbon removed from it. This balance – or net zero – will happen when the amount of carbon we add to the atmosphere is no more than the amount removed.

By focusing digital observation and governance on our emerging collective behaviors we will guarantee the sustainability of the populations, simultaneously with their right to develop. This means "digital humanism" and the guarantee of a transdisciplinary approach to digital twins in a way to foster healthier lives and the development of sustainable and healthy territories.

9 WHO (2021).

Understanding technology change as a common public good will allow citizens to be an integral part of future developments. This will help policymakers to better understand how digital observatories can be used to develop further to make public services more effective by delivering seamless services, cutting down digital bureaucracy and giving citizens back their most precious asset, namely their time. In addition, it will drive new policy options to enhance the governance and regulation of decentralized digital networks, including those in the public sector, ensuring high standards of conduct across all areas of public sector practice, promoting public sector effectiveness and delivering better service to its users.

"Understanding technology change as a common public good will allow citizens to be an integral part of future developments."

Manuel Heitor
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