



SCIENCE AND ITS PROMOTION IN THE AGE OF DIGITAL REVOLUTION



A distinctive feature of today's global economy is its growing dynamism and the groundbreaking nature of changes, most of which are being driven by the digital revolution. This is because the world is undergoing the "fourth industrial revolution" (Industry 4.0) by switching from models typical of industrial civilisation to a new, though still not fully defined, post-industrial paradigm usually referred to as "knowledge-based economy." **ELŻBIETA MAĆZYŃSKA**, President of the Polish Economic Society, has shared some of her thoughts on this topic for "Polish Market."

The term knowledge-based economy - while not truly accurate as civilised man has always relied on some knowledge resources in all, not only economic, activities - has attained a position among the predominant features of the modern world. A knowledge-based economy is one in which

knowledge becomes a “universal substitute,” pushing other elements of creative potential into the background. At present, knowledge is turning into a sort of universal “processor”, the enormous potential of which has spectacularly revealed itself in the origins and history of such forms of activity and enterprise as the Google search engine and the Facebook social network. At the same time, in this age of knowledge and civilisation, the modern world is paradoxically being plagued by one of its most embarrassing features, namely a growing dichotomy between knowledge and wisdom. This was rather bluntly articulated, as early as in 1929, by José Ortega y Gasset, in his timeless work “La Rebelión de las Masas” (The Revolt of the Masses). “It is a characteristic of the present times to see mediocre and banal minds, aware of their mediocrity and banality, having the audacity to claim the right to be mediocre and banal and to impose these traits on everyone else.” Much seems to suggest that these “present times” continue to this day. The unprecedented, undisputable progress in science and technology, as well as the steadily increasing knowledge resources, have fallen short of making an actual contribution to societies’ wellbeing. In this situation, the consequences of the lack of wisdom in the use of knowledge can prove catastrophic. This is manifesting itself in many processes and actions, highly undesirable, yet disseminating at an amazingly fast rate. They are proof of insufficient reflection, wisdom, responsibility, and long-term consideration on the part of decision-makers at various levels, starting from those at the top. These deficits in wisdom are bringing about a deep, global breach of the ecological, economic, demographic and political balance.

The digital revolution, happening right before our eyes, has been increasingly making the institutional solutions used so far in socio-economic policy fall short of the requirements imposed by this new economic model. This ultimately leads to what has been referred to as the “lock-in effect,” meaning a sort of confinement within the previous systemic framework, creating a barrier to socio-economic development. This suggests the need to search for new solutions and concepts – their source is and can be primarily science. This shows how important it is to promote scientific achievements. Putting them into practical use forms a necessary condition for optimising the utilisation of the digital revolution’s potential and the related changes, as well as for counteracting the symptoms of the lock-in effect and other irregularities, such as various breaches of digital security, including cybercrimes.

The promotion and practical use of what science has achieved is important, even more so because – as argued by Kevin Kelly, a renowned futurist famous for his accurate predictions – “In this era of ‘becoming,’ everyone becomes a perpetual newbie.” In his book “The Inevitable: Understanding the 12 Technological Forces That Will Shape Our Future,” published just under two years ago, Kelly stresses the inevitability of this “newbieness”, as it results from the pace and nature of technological advancements. According to Kelly, the majority of technologies to come onto the socio-economic scene 30 years from now have not been invented yet. Consequently, he predicts that by the end of this century, 70% of today’s professions will have been replaced due to automation/robotisation. The rate at which technologies and products turn obsolete and useless is growing. This will ultimately lead us to a model of the world in which “what’s inconceivable, becomes the new normality.” The digital revolution keeps on creating

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new, unknown phenomena, and is thus shaping a new economy and creating new economic actors. This has been illustrated by T. Goodwin, an expert in the field of modern media, who notes that Uber, the world’s largest taxi-cab company, does not actually own any taxis, Facebook, the most popular media outlet, does not create any content, Alibaba, the global retail powerbroker, does not possess any goods or warehouses, and Airbnb, the world’s top hospitality service, does not own any hotels. These are the best proofs that something big is happening in the world. “The new” is pushing ahead at a rate we have never seen before. With new technologies cropping up at such a rapid pace, however, we are unable to prepare for the changes. For this reason Kelly believes that “perpetual newbiness” is becoming an inherent feature of our times. In such conditions, asking questions is no less powerful than searching for answers, and the role of the “futurological store of thoughts,” a myriad of visions and dreams, is growing in importance. The world of science has a fundamental part to play in this regard. At the same time, the development of digital communication technologies stimulates research potential, with crowdsourcing becoming more and more important as regards the creation and promotion of new ideas.

Despite very meagre funding for science, researchers in Poland can boast some impressive results in many disciplines. Regrettably, there are still too few initiatives designed to promote, both domestically and internationally, these achievements and their practical applications. Polish diplomatic missions should certainly show more activity in this respect, also to foster science and research cooperation between Polish scientists and their colleagues abroad.

In this context, it makes sense even more to pursue the planned projects aimed at the greater internationalisation and promotion of Polish science. These include, for example, cooperation between the National Science Centre, which is an agency of the Ministry of Science and Higher Education, and the Max Planck Society, a prestigious scientific institution, the best in Europe. The development of scientific cooperation advocated by the Society and the global promotion of Polish science is to be further facilitated by 10 centres for scientific excellence to be set up at Polish universities, and employing top scientists from the whole European region. A fundamental role is also to be played by the National Agency for Academic Exchange (NAWA) established in Poland in 2017 to promote Polish science abroad. It can be assumed that such undertakings will positively impact on the growth of Polish science and its position in the world. •