



Overcoming urban crises  
and rebuilding cities

“The adoption of new circular practices does not only depend on market conditions, but also on social, cultural and cognitive factors.”

—Hilde REMØY, Alex WANDL

Quote from the article “Challenges for Circular Urban Development” in *Intersecting Vol. 9* by Hilde Remøy and Alex Wandl (TU Delft, Environmental Technology and Design, Netherlands). Image Source: A look at the conference area of the World Urban Forum 11 in Katowice, Poland, which raises the question of the physical form of knowledge building and sharing, as well as policy making through large assemblies, e.g. on urbanization, climate, biodiversity, etc. 2022. Image by Nicolas J.A. Buchoud, all rights reserved ©.



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## Annihilating Space and Time

In 1843, the German author Heinrich Heine was astonished by the unfolding age of trains. Living in exile, he wrote that at the local train station in Paris he could already smell the German sea and German lime trees: “The railroad annihilates space and only time remains.”<sup>1</sup> As magnificent as this may sound, it is equally impossible. Naturally – and thankfully – one cannot annihilate either space or time. What really happened: The relation of space to time (of kilometers per hour) had accelerated drastically. Speed was increasing, and it has ever since.

From an economic perspective, human consumption is divided into two categories: goods and services. Goods are basically material things that our body either directly ingests or which surround and indirectly comfort it. Services, on the other hand, mostly rely on immaterial information. For a long time, immaterial information moved with the same speed as material: The post was only as fast as the fastest runner,

rider, dove, train or plane. In case of Heinrich Heine’s mid-nineteenth century train, that was around 60 km/h. However, when telegraphy, telephony, radio, and television were invented, information went supersonic: Seemingly decoupled from its material base, information started to travel close to the speed of light at easily more than one billion km/h.

Nothing is faster than light. So how did and does digitalization add to this race of information? Well, computers are faster than humans. Based on algorithms, the circuits of a computer can produce out of incoming signals new outgoing signals. These tasks take them a fraction of a second where humans would have needed hours, days, or even longer. Moreover, computers can run calculations that humans would never have been capable of performing. Since “Deep Blue” won against world champion Garri Kasparov in 1996, humans have lost against top chess computers – always. Humans, being more and more the slowest link in the information processing chain, are consequently replaced. One of the most staggering examples is probably the financial system: In the twentieth century, a limited number of financial traders gathered around order books – for a long time in the form of chalkboards. On trading floors, they shouted at each other and into their telephones. Today, the order books are in server parks where most trading operations are handled by algorithms; the material trading floors are now deserted spaces which have fallen silent.

In the same manner, computers’ ability to run algorithms

also allowed the creation of virtual spaces for other kinds of human interaction. While a telephone call is an exchange of information between two human beings, internet platforms allow the exchange of information between millions – without any of them having to move. These days, whoever possesses a smartphone has more information within reach than any scholar in any library in the twentieth century. Thanks to digitalization, information can be easily and immediately consumed and shared among humans by text, audio, graphically, or all of these at once by video.

In the economy, digitalization (together with other aspects of automatization) is accelerating production. Processes are running faster and more efficiently: Costs are reduced, competitiveness thus increases, and profits potentially increase too. More and more products are produced within the same amount of time. Speed is further increasing, and production is skyrocketing. At the same time, replacing humans has and most likely will further shift jobs from agriculture and industry towards services. No wonder: In the latter sector, the human domains of complex information processing and especially creativity are particularly present. However, the emergence of increasingly capable AI, for instance in translation, also replaces tasks in this field. Taken together, by increasing the amount of information and its speed, digitalization is driving productivity, and new jobs are evolving while others become obsolete.

In 1930, in the middle of the great depression, the founding

father of macroeconomics, John Maynard Keynes, described the phenomenon of “technological unemployment.” He argued that a hundred years later – so roughly about now – technology and the principle of capital accumulation would have raised productivity substantially. Thus, such wealth would have been created that “for the first time since his creation man will be faced with his real, his permanent problem – how to use his freedom from pressing economic cares, how to occupy the leisure, which science and compound interest will have won for him, to live wisely and agreeably and well.”<sup>2</sup>

Keynes was right about productivity and capital accumulation. Worldwide, capital has increased about eightfold since 1960,<sup>3</sup> and world GDP per capita has increased more than threefold alone since 1993.<sup>4</sup> Yet, Keynes was wrong about leisure: Although worldwide production would be sufficient to enable a worldwide decent life with long periods of leisure, the world is speeding on, accelerating further, exploiting its natural resources with increasing intensity – despite all political pronouncements on sustainability. It seems the world is still racing, although it reached the finish line long ago.

What happened? What went wrong? To be fair, Keynes only wrote about “progressive countries.” However, in these developed countries, for most people, no age of leisure has dawned in the last 100 years – not to mention developing countries. Although worldwide poverty significantly

decreased since the turn of the millennium, close to 50% of the world population still lives on less than 6.85 USD (at 2017 international prices) per day – which is far away from a life in wealth and leisure.<sup>5</sup>

In the same article, Keynes wrote that some human needs “which satisfy the desire for superiority, may indeed be insatiable; for the higher the general level, the higher still are they.” Our economy is a race. It is based upon competition – and if some powerful competitors one day decide to take it easy, they may find themselves out of business, because there is no way the others would stop. A lot has been written and said about Schumpeter’s creative destruction, yet most global “disruptive” innovations come from the same societies of the Global North. Do they disrupt the distribution of wealth? Not really. Drop the old stock, buy the new one. And what people particularly tend to forget: In a race without end, there is also no fair restart. Although there is the narrative that the Global South may catch up, the opposite is the case: Productivity of an average citizen in the Global North is growing faster than that of an average citizen in the Global South.<sup>6</sup>

Digitalization has accelerated the race that is our economy to unknown speed. According to Heinrich Heine, digitalization metaphorically annihilates space. Indeed, our planet seems to have grown smaller. Heine also wrote that only time remains – so Keynes had hoped, but no era of leisure has dawned. Whoever wants to eat and own, needs to work and

join a race beyond the finish line. We are annihilating space and time.

#### References

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3. International Monetary Fund, *Investment and Capital Stock Dataset*
4. World Bank, *World Development Indicators*, GDP per capita PPP (constant 2017 international \$), available at [\(link\)](#)
5. World Bank, *World Development Indicators*, Poverty headcount ratio at \$6.85 a day (2017 PPP) (% of population), available at [\(link\)](#)
6. World Bank, *World Development Indicators*, GDP per capita PPP (constant 2017 international \$), available at [\(link\)](#)