Control turnover
Economic planning in the digital age

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The extent and urgency of the current socio-ecological crisis are sufficiently documented scientifically. Ecologically, the earth is on the verge of irreversible collapse, socially, there is an ever-increasing polarisation between rich and poor. The combination of emissions trading and eco-taxes, which is repeated like a prayer wheel in ever new international agreements and national "climate packages", proves to be insufficient each time. The sale of pollution rights pushes the privatization of nature even further and thus consolidates the capitalist compulsion for growth, which structurally excludes the consideration of ecological and social limits. The taxation of environmental consumption (e.g. gasoline taxes) is always either so low that it does not have sufficient effects or so high that it brings the lower classes into existential hardship, which regularly leads to social protests. As a result, market-based sustainability is not only socially unjust but also ecologically ineffective (Kern 2019).

In the following we therefore outline a possible way of dealing with the socio-ecological crisis that goes beyond the constraints of economic growth. Specifically, we are concerned with the potential that the rapid development of digital technologies offers for sustainable and democratic economic governance. Digital governance opens up new possibilities for planning, which could solve problems of previous non-capitalist economies, especially their efficiency and democratic deficits. This utopia is based on real current developments: In times of Big Data and an ever more widespread "surveillance capitalism" (Zuboff 2018), which gives companies a comprehensive knowledge of the needs of their customers (and enables their intensive manipulation), market mechanisms are systematically replaced by new forms of cybernetic control of the economy. These developments, if democratically appropriated, provide the objective conditions for a decidedly political transformation, which we call a steering turnaround.

HOW CAPITALIST DIGITALIZATION OVERCOMES THE MARKET

In the spheres of distribution and consumption, there is an extensive collection of information about both global supply chains and individual customers. An example of advanced cybernetic economic planning based on such information processing is the system of Collaborative Planning, Forecasting and Replenishment (CPFR) of the Walmart Group. The special feature of this huge satellite-

supported database is that it not only records all sales in the Waltmart supermarkets, but also includes the production data of all suppliers, which also flows into the system. The database thus links demand forecasts with the suppliers and distributes sales data from the cash registers along the entire supply chain in real time. This collaborative approach ensures that both the production as well as the distribution of goods is linked to actual consumption. However, such collaboration contradicts the fundamental principles of market economics, according to which planning can only take place in individual companies, whereas markets should be characterized by competition between these companies. Amazon, for example, but also other companies with data-driven business models, do not trust the mechanisms of supply and demand at all. Instead, a system of dynamic pricing is used, which displays individual prices for each customer. While market prices are always the result of the ratio of aggregated demand to aggregated supply, dynamic pricing is based on information about the individual customer. The price formation becomes the result of a large-scale data collection process 1. In summary, it should be noted here that the basic assumption of the neoliberal ideology that only the market makes a comprehensive information collection process possible, is today in times of Big Data is obsolete. Capitalism develops control forces (Jochum/Schaupp 2019), which finally puts into perspective the always ideological assumption of the necessity of the free market as a central control authority. At the same time, the ecological crisis requires a control of the economy that limits or ends the expansive land-grabbing logic of capitalism. What is needed is a new form of social use of the controlling forces in order to tap their potential. However, the technology-deterministic and market-oriented discourse on the future of work, known as Industry 4.0, tends to ignore these control issues and considers political intervention in technology development to be necessary primarily in order to secure Germany a leading position in the global digitalisation competition. The vision of using digital technologies to reinvent the political and economic would have to be set against this. What is needed is a change in control which places the new control technologies at the service of society and nature.

FOR A PLATFORM COOPERATIVISM

With the concept of the steering turnaround we describe the utopia of a social appropriation of the developed steering forces, which allows overcoming the socially and ecologically problematic market steering. In current debates about the social-ecological future of society, a fundamental energy turnaround is demanded, which will lead to the gradual replacement of the fossil energy forms through alternative, renewable forms of energy. By analogy, one can speak of the necessity of a turnaround in control, as a result of which the control medium money, which diminishes capitalist modernity, loses importance and is increasingly supplemented and replaced by alternative forms of

control. This in no way implies a return to state-centered, planned economy control models. Rather, the untapped potentials of cybernetics (Schaupp 2017) and debates on community-based forms of control can be taken up. Elinor Ostrom (1990) made it clear in "Governing the Commons" that community-based forms of regulation often contribute to more effective resource management than state and market-based forms of regulation. The new digital technologies and platforms are accompanied by the possibility of modernising and expanding these community-based forms of governance. It is true that hopes of an almost automatic tendency inherent in digital technologies to promote a post-capitalist "sharing economy" characterised by "collaborative com-mons" (Rifkin 2014) have given way to disillusionment. The adoption of the idea of a sharing economy by platform capitalist companies has led to an erosion of labour standards and ecologically negative rebound effects. This makes it clear that there is a political need to shape the social (re)appropriation of the platform economy, if the positive effects of "Sharing Economy. Such a political regulation could, among other things, support a platform co-operativism that overcomes the deficits of the "Sharing Economy" appropriated by capitalism. There are already many successful examples of a platform-based cooperative system, such as the union-supported non-profit taxi service Transunion Car Service in New Jersey. The same can be said about the emancipatory potential of Distributed-Ledger-Technology (DLT), i.e. digitally distributed cash books and especially block chain technologies, which are not only the basis of alternative monetary systems. They are also linked to hopes for more non-hierarchical economic relations and are seen as opportunities for realising sustainable development, including more efficient monitoring of environmental and labour standards in supply chains (GIZ 2019). In the agricultural sector, for example, block-chain technologies enable secure storage and control of all transactions along supply chains, which, in conjunction with big-data technologies, serve to increase profits. Critics refer, in addition to ecologically problematic side effects, to increasing corporate power and the displacement of small farmers: "Block chains in agriculture are nothing more than the digital enforcement of the 'right of the (mathematically) stronger'. (Drechsel/Dietz 2019, 178) However, this is why the use of the distri-buted ledger technique to promote a more solidary and ecological economy should not be rejected in principle. Holochain technology is being discussed as an alternative to blockchain. This is not only more energy efficient, but also more decentralized and could support democratic and commons-friendly systems. Potential is seen, among other things, in the support of the organisation of networks of solidarity-based agriculture or the joint production of sustainable energy (e.g. "Solar Commons") (Helfrich/Bollier, 301ff). However, it would be naïve to hope solely for the transformative effect of individual commons-oriented projects. Within a growth-oriented capitalist economy that continues to be characterized by market competition, these projects will probably remain niche projects. It is necessary to reduce the importance of the market for the

entire economy without falling back into a hierarchical planned economy. Digital technologies can also make a contribution here. The forms of control beyond the market outlined above, which are currently still being developed within the capitalist economy, would have to be "emancipated" and democratically appropriated for this purpose: instead of a single bureaucratically ordered economic plan, for example, a multitude of plans for democratic deliberation could be generated through the use of digital software agents. In a post-capitalist society, these could be used to automatically prepare huge amounts of aggregated economic data for democratic decision-making. They could be used to calculate multiple plan options, including their environmental and social impacts, and make them available for voting. These plans could then be discussed and voted on, as Nick Dyer-Witheford (2013, 12) calls for, on community-owned social media platforms when "Fa-cebook, Twitter, Tumblr, Flickrr and other Web 2.0 platforms become not only self-managed operations of their workers, but also forums for planning". This would make a central planning authority that creates and enforces a single binding plan finally obsolete. Digital feedback infrastructures could be used to create "non-markets", as Evgeni Morozov (2019) suggests. This would reduce the enormous attention costs that have so far had to be of democratic economic governance (e.g. by means of workers' councils), so that a radical democratic delivery on complex economic issues is technically possible. This change in control could also go hand in hand with a fundamental social reorientation in the sense of turning away from the goal of maximising profits, as was the case with the control medium of money. Through democratic digital planning, production could be directly linked to human needs and the natural limits of the planet, rather than to the maximization of profits. For example, the reports of the Intergovernmental Panel on Climate Change indicate that a "budget" of 500 gigatons of CO2 emissions remains worldwide until 2050 to prevent an irreversible climate collapse. Only a replacement of the principle of unlimited economic growth by planning can ensure that this limit will be met. In order to prevent this planning from taking on totalitarian characteristics, new forms of extended democratic participation made possible by digital technologies are indispensable. This would create the basis for a fundamental shift towards a socially and ecologically solidary economy. However, such a change of course will not be achieved by the development of the steering forces themselves, but requires a political movement. The current extra-parliamentary climate movement is the greatest source of hope here. However, it would have to have the courage to abandon the conventional measures of environmental pricing and forge broad alliances for a social-ecological abolition of capitalism.

1 For more on Walmart and Amazon, see Leigh Phillips and Michal Rozworski (2019)

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