Social Contract 2020: An MIT Connection Science Perspective

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With each major technological development, there has been a need to reevaluate the relationships between individuals, businesses, and governments and revisit the social contract that had been in place. In the 1900s, the rebalancing of the social contract was accomplished to account for externalities that were not factored into the economic growth provided by new technologies. This period saw the creation of trade unions that could better ensure safer working conditions for people in factories, the implementation of environmental protections to protect against the health effects from the fuel required by factories, and the creation of market regulations to prevent monopolies.

Today there is evidence that Artificial Intelligence (AI) and big data are fueling a need to rebalance the relationships between all of the stakeholders of the economy and revisit what exactly the social contract looks like in this new, digitally enabled environment. This modernized social contract will likely require new solutions for managing civic and government systems, for improving digital privacy and cybersecurity, for providing more agile, inclusive, and transparent responses to societies' problems, and for funding the infrastructure required by a digital economy.

 One idea for what this new social contract might look like is summarized by the phrase "stakeholder capitalism", that is, capitalism that benefits all of the stakeholders in a given community. Unfortunately, it is not yet clear how stakeholder capitalism would support an inclusive, fair social contract. At MIT Connection Science we and our partner nations are exploring the hypothesis that the same technologies that are causing social unrest may also catalyze the creation of new types of civic systems where power and decision-making are distributed among the stakeholders rather than concentrated in just a few hands.

Our explorations have illuminated a new path that promises to provide a viable connection between stakeholder capitalism and the social contract. Capitalism that benefits everyone can not be measured by money alone because money is not the only representation of value for people. Instead there is an opportunity to redefine capitalism in such a way that encompasses all aspects of human life, using metrics such as those developed to quantify the UN's Sustainable Development Goals (SDGs). Perhaps the greatest achievement of the SDGs is that they provide tools for realizing the opportunity of stakeholder capitalism. Now, it is possible to identify, measure, and evaluate concepts such as sustainability access to opportunity, education, and health using quantitative metrics that promote a more sustainable, inclusive, fair, and lower risk future future and have been agreed to by every nation on Earth.

This new stakeholder capitalism, where capitalist performance is measured by the Sustainable Development Goals (SDGs), is enabled by the fact that technologies like AI, blockchain, and IoT are lowering the cost of measurement and coordination to such a point where traditional centralized, hierarchical organizations are no longer required for large-scale projects or production. As a consequence, people are beginning to create organizations that are far more distributed, flexible, and resilient, and which can operate adjacent to existing capital markets, labor pools, and legal frameworks.

HIGHLIGHTS

Many of the most contentious elements of a social contract concern ownership rights and the means of production, specifically as they relate to capital, labor, and property. Now that the economy operates

primarily online, we must realize that questions about the force and effect of AI are determined by how we control flows of data. Accordingly, we must add data rights to the list of production and ownership rights spelled out in our new social contract. Thus, to regulate AI or any of the new information technologies, one must first and foremost specify data rights, regulations, and systems. This will then allow fine-grain, distributed management of all other aspects of our social contract, as illustrated by the following examples.

Capital: new ways spreading opportunity

They say that money makes the world go 'round, but in reality there are a lot of wobbles. Can we make our financial systems more transparent and less winner-take-all? To make progress on this goal we have formed the Prosperity Collaborative, a commitment by organizations such as EY and New America to renovate tax and social payments systems in developing nations by using free, open-source software, with training and deployment paid for by organizations such as the World Bank.

MIT Connection Science is also helping multinational organizations improve the health of the financial ecosystem. Two examples from our sponsors are Mastercard announcing ThreatScan, a system to protect small businesses around the world from cyberattacks, and ORS announcing an open-source AI system to help small business and cities make tourism more sustainable and inclusive.

Philanthropy is changing as well. Currently, only 2% of giving is able to be measured through both impact planning and impact monitoring. Guiding philanthropy using quantitative impact assessments, as measured by SDGs, could transform philanthropy from a feel-good, cottage industry into a serious force for measurable good.

Labor: new types of engagement

The robot overlords are coming! Everyone is worried about how AI will transform work and society. Key to meeting this challenge is for companies to stop working on AI that replaces people, and start working on AI that enhances human intelligence. This move to human-centered AI, commonly referred to as "Extended Intelligence", is being adopted by many of the largest companies.

At our Davos 2020 event, we heard from CEOs of a dozen of the largest companies… including TCS, BT, Mastercard, and more… who have committed to changing from AI to EI. Many international initiatives highlight this effort aimed at replacing AI with EI. Most striking was the IEEE's creation of Extended Intelligence standards (the IEEE is the world's largest professional organization, and home to virtually every AI, Blockchain, and IoT researcher and professional), and the ELLIS network in the EU, a grassroots effort by AI researchers to replace old-style AI with human centered extended intelligence.

Finally, we heard from the leaders of many international companies such as Verizon, Tata, Cisco, BT and others that they were helping this transformation by establishing apprenticeship programs, which provide real-world experience and life-long learning for their communities. Aiding this transformation is MIT Connection Science's development of a new science of learning that uses jobs data to determine which skills and trainings will empower companies and cities to thrive in this new, AI-enabled world.

Property: new infrastructure, more inclusive trade

The new distributed, technology-enabled organizations we are developing are particularly attractive outside of the developed world, where existing institutions are either weak or in poorly-served

neighborhoods inside of wealthy nations. For instance, one of our partners developed an investment platform that crowdsourced the funds needed to construct a hydroelectric project in Pakistan that cost nearly a billion dollars, with only minimal government participation.

The rise of such finance and management systems appears to be the beginning of a new trend to create more widely distributed infrastructure with stronger, more localized buy-in from community stakeholders. Such infrastructure can be supported by broadly distributed funding mechanisms, enabled by variants of our Tradecoin architecture, that is largely independent of centralized authorities, large nations, large banks and the wealthy western world.

Success of these new types of ventures are causing many countries and companies to focus on the trade routes linking the EU, Africa, South Asia, and China. This is a heartening development, because trade between EU, Asia, Africa, and India will determine the future of half of the world's population, and make or break the UN's Sustainable Development Goals.

Data: enabling citizen power

If data is the "new oil", then what about the rights of the people helping co-produce this new resource? People are worried about the concentration of data in the hands of just a few companies, the ability to tweak algorithms to manipulate individual behavior against their own interest, and the information asymmetries that have gave rise to the notion of surveillance capitalism. The core problem is that data is now as important to our economy as property, money, or labor, but our social contract is silent on how data rights should flow within our society. Moreover, despite impassioned calls from advocates of every stripe, the outlines of a fair, healthy framework for data rights and data use are not yet clear.

This suggests achieving consensus about data rights and data use will require a process similar to the process that established rights for labor, capital, and property: collective bargaining by citizens to reach satisfactory trade-offs with both government and companies. The idea of data cooperatives, giving citizens and employees the data and AI tools to demand fair treatment from both government and companies, is similar to how Labor unions of early 1900's established rules for labor.

At MIT Connection Science we are developing digital platforms tools for data cooperatives, ranging from Open Music(a platform that uses AI, blockchain, and IoT to enable digital artists to come together and revive the entertainment industry), to platforms for use by international consumer unions and associations of labor unions.

Summary: Toward a New Social Contract

Balancing these and other elements of a new social contract will be the job of law. However, the current practice of law is proving unable to cope with our rapidly changing world, and is increasingly unable to ensure access to justice. To keep up with this rapid pace of change, the practice and application of law is becoming computerized, in ways ranging from filling out forms to tax computation to trial discovery.

However, the migration of our existing set of legal algorithms to computer platforms risks displacing human judgement and sensibility. Consequently, we must think carefully about how computation interacts with the processes of law and regulation. This rethinking of how to manage the

computerization of law is the focus of an alliance of Law schools with MIT Connection Science, as seen in MIT's new Computational Law Report.

The goal of this alliance, and of MIT Connection Science's work more broadly, is to carefully leverage computational tools to develop more transparent, accountable, and inclusive legal, civil, and government processes. It is through this digital transformation that people everywhere will reap the benefits of a true stakeholder capitalism, based on a reinvigorated social contract, together with the sort access to justice that only the wealthy enjoy today. We welcome your participation in this vitally important journey.