

Chapter 6

From Monetary to Nonmonetary Society



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Abstract As a consequence of the digital revolution, we predict the dynamic change of our daily lives and consuming activities, and moreover we have foresight on the possible impact to our economic systems and human relations.

Section 6.2 discusses the impact of unbundled innovation to the economy and the factors underpinning the unbundled economic activities, and approaches the advantages and issues of the digital platform to be installed in the economic system of a data-driven society. Section 6.3 approaches the issues of the cashless society from the economic aspect of a data-driven society. It points out two types of possible issues: pricing the priceless information and managing personal data without anonymity in the cashless society, which the digital currency enables to realize.

Sections 6.4 and 6.5 are the philosophical approaches to the humanity and human wealth to be aimed as the goals of Society 5.0. Section 6.4 suggests the development of current sharing economy method and the economic paradigm shifts: from the conventional economy based on private ownership to the new economy based on

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collaborative commons, and from the society with the conventional value for ownership to the society with the new value for usage. Section 6.5 approaches the image of future society to be aimed by Society 5.0 from the view of humanity and philosophy. It suggests that Society 5.0 should innovate the capitalism for transforming from material based to human based together with the growth of human capability, which can be called as a society for “human co-becoming.”

Keywords Cashless society · Digital economy platform · Nonmonetary society · Post-capitalism society · Sharing economy

6.1 Data-Driven and Nonmonetary Society

So far, this book has outlined the concept and nomenclature of Society 5.0 and discussed the approaches to and future directions of technological development based on such a concept. So far, Society 5.0 has been discussed chiefly from an engineering perspective. This chapter takes its perspectives from economics and humanities. From these perspectives, it discusses the future of the data-driven society—the kind of society that Society 5.0 espouses—how we can grasp/embrace such a society, how viable it is, and what issues will emerge.

We have already explained the background and the purports for why Society 5.0 was outlined in the government’s 2016 fifth Science and Technology Basic Plan. To reiterate, this was related to the fact that Japan and other developed nations have reached a major turning point technologically and socioeconomically. This situation is all the more obvious now compared to 10 years ago. Ten years ago, smartphones had not caught on, nor had things like car sharing and blockchain. Over the past 10 years, Apple, Amazon, Google, and Facebook have achieved a meteoric rise to world dominance.

Meanwhile, China has made startling progress in going cashless, and companies like Alibaba and Baidu have become major players. In large Chinese cities today, you can buy a drink from a vending machine without cash, and neither do you need cash to take a taxi or purchase something from a stall. Many Chinese people have not used any cash for over a year. In a cashless society, goods are paid for in cyberspace, and everyone’s purchase history is stored as Big Data.

Once you buy a book on Amazon, your inbox will receive a succession of recommendations (stating “you may also like the following items”) on further items based on what you purchased or viewed. These recommendations are an example of what cyberspace systems accomplished with the use of AI to analyze Big Data (customer purchase history) and then actively prompt the customer to make further purchases. In a data-driven society, the results of AI analysis are deployed in psychological ploys to induce particular types of human behavior. The businesses are concerned with behavioral economics. Thus, it is not surprising if someone buys some tens of books in the space of a few months that they would otherwise not have bought. A concern of the data-driven society is that large businesses will make cus-

tomers purchase histories snowball into a vast data reserve, and then monopolize all the massive profits that this data can yield. Such an eventuality is likely in China, with its market of a billion people. The winners in such a data-driven society will be the companies who gather Big Data.

How then can companies in smaller countries like Germany and Japan ride with or resist this tide? Given that apps and smartphones play a leading role in the data-driven society, perhaps the future of these companies lies in developing constituent technologies for these things. The rapid proliferation of data services means that it is harder to succeed in business solely on manufacturing prowess. The world is placing more value on data and less on manufacturing technologies. It was against this backdrop that Society 5.0 was proposed as a vision of future scientific and technological progress as well as a vision of a future society. In this respect, Society 5.0 is not unconcerned with the global proliferation of the data-driven society.

With the global spread of capitalism exacerbating economic and regional inequalities, many fear that the data-driven society will lead to further social divisions and disempowerment. To address these concerns, the Comprehensive Strategy on Science, Technology, and Innovation for 2017 states: “Society 5.0, the vision of future society tow [sic] which the Fifth Basic Plan proposes that we should aspire, will be a human-centered society that, through the high degree of merging between cyberspace and physical space, will be able to balance economic advancement with the resolution of social problems by providing goods and services that granularly address manifold latent needs regardless of locale, age, sex, or language to ensure that all citizens can lead high-quality lives full of comfort and vitality.” Whereas the present thrust of capitalism is one that exacerbates division, Society 5.0 offers an alternative form of capitalism, one in which scientific and technological progress transforms regional disparities into opportunities for each local region to promote its unique qualities and transforms diverse preferences and lifestyles into an inclusive, accommodating society.

The paradigm shift we aim for in Society 5.0 is one of values; we seek a shift to a people-centric society, one that is inclusive of different communities and individuals and is not overly focused on economics. Economics measures things by monetary value, but people-centric values—in particular, QoL—cannot always be measured in monetary terms. The role of nonmonetary values is therefore a central concern in the discourse on Society 5.0.

There is an alternative view. A web browser is a key example of a nonmonetary service. We search the Web every day to find information that we personally value, and yet we do not pay service fees directly for these searches. Users can come up with business ideas for monetizing the information they gather from these non-payable online services.

Section 6.2 of this chapter discusses the potential for developing digital platforms in Society 5.0. Section 6.3 discusses the role of cash in the data-driven society, where individuals’ purchase histories are archived. Section 6.4 discusses the meaning of wealth in the sharing economy. Finally, Section 6.5 outlines “human co-becoming,” a concept of human independence in a data-driven society.

Discourse on the future of the data-driven society will increasingly concern the question of how monetary and nonmonetary economies will conflict or coexist. I hope that this chapter will prompt readers to consider this issue.

6.2 Digital Platforms in Society 5.0

Society 5.0 represents the next step in our socioeconomic evolution, the previous steps being hunter-gatherer (Society 0.1), agrarian (Society 0.2), industrial (Society 0.3), and information (Society 0.4). Each of these steps forward was the result of what Bresnahan and Trajtenberg (1995) called “general-purpose technologies,” which provide an engine of growth that transforms existing social structures. Each time an old system was replaced with a new one, our life and work styles were transformed accordingly, as were our values and ways of thinking.

In the agrarian era, farming was a general-purpose technology. Hunter-gatherer communities became sedentary and started rearing livestock and producing crops. Village communities began to emerge as the basic social unit, giving rise to a land-based economy. Meanwhile, societies became stratified into rulers and ruled. Steam power began to develop in the early seventeenth century and it eventually became a new general-purpose technology, which enabled dramatic increases in productivity and thus sparked the shift from agrarian to industrial society. In that industrial era, populations gradually shifted away from rural communities and into urban districts, resulting in a large-scale clustering of labor into cities. Around this time, Japan started shifting away from the traditional social stratification known as the “four categories of the people” (gentry scholars, peasant farmers, artisans, and merchants).

Our generation has lived in the information society. One of the general-purpose technologies in this era is IT, including computer technology and satellites. Television, newspapers, and other mass media have narrowed the information gaps between different regions, and there are now much greater flows of people, goods, and money. However, there are also stark regional disparities; many local communities are disappearing, while in the cities, people are much more likely to interact with strangers in their workplaces and living spaces. Since the 1990s, Japan has been on a privatization path amid the tide of structural reforms and regulatory easing, and this has raised the question of how to maintain non-profitable public services.

In Society 5.0, the general-purpose technologies will be ones that monitor and analyze in real time and optimally manage society as a whole, in other words, technologies that manage human behavior as well as energy and transport infrastructure. Society 5.0 will have cyber-physical systems, thanks to the ability to use advanced AI systems to analyze unstructured Big Data gathered by the Internet, sensors, and digital technology. This section explores this coming era from an economics perspective with respect to Society 5.0.

Unbundled Innovation

As the wry adage goes, “it’s difficult to make predictions, especially about the future.” The more cautious economists are, the less inclined they are to forecast the future. British economist John Maynard Keynes must have been very bold therefore

when he penned the 1930 article “Economic Possibilities for our Grandchildren,” in which he forecast how the economy would look in 2030 (Keynes 2010). Keynes predicted that “the standard of life in progressive countries one hundred years hence will be between four and eight times as high as it is” and that there would be a “15-hour work week.” He also predicted that his generation’s grandchildren would see an end to the economic problems that have bedeviled humankind since time immemorial, causing us to fight over basic resources. According to Keynes, “there will be great changes in the code of morals” and “the love of money as a possession ... will be recognized for what it is, a somewhat disgusting morbidity.”

Almost 90 years have passed since Keynes made his predictions. Our standard of life, as measured by GDP per capita, is ten times higher than it was in 1930, exceeding Keynes’ prediction. Keynes would, however, have been disappointed in other respects: we have made little progress in labor distribution, while job insecurity, economic inequality, and poverty have grown even worse. We may not have reached what Keynes called “our destination of economic bliss,” but in the case of Japan at least, what we desire today is markedly different from what our forebears desired in the 1950s, when the must-have items were the “Holy Trinity” of the black-and-white television, the washing machine, and the refrigerator. Today, consumers have shifted their interest from tangible goods to intangible services, and their desires are to experience something rather than to own something. This would explain why we are seeing increasing demand for peer-to-peer services (shared economy) and virtual/augmented reality when it comes to cars and accommodation.

Innovation concerns technology, but it also leads to changes in people’s behavior. Many past examples of innovation led to “unbundling.” The rise of the sharing economy, for instance, has decoupled use from ownership. Likewise, mobile phones have unbundled communication from fixed locations (landlines). Similarly, recordable TVs have unbundled the experience of viewing a TV program from the timeslot in which the program was broadcast, and massive open online courses (MOOCs) have unbundled education from the classroom.

Such unbundling not only affects the demand side but also shapes supply. Whereas suppliers have outsourced manufacturing overseas to minimize costs, the rise of 3D printing and other forms of advanced manufacturing are creating new possibilities for factories and R&D sites to optimize their operations without needing to worry all the time about production costs. Unbundling is also changing the way we work. It has created new forms of employment, leading to a broader notion of work (for example, telecommuting is now seen as an acceptable way of working) and opening up possibilities for freelance work, something that was not part of the conventional notion of work. Labor services are nowadays provided in an environment where work times and work locations no longer necessarily overlap, which makes it necessary to develop institutions that allow for more organizational flexibility.

The Economic Factors Underpinning Unbundling

What are the social and economic effects of unbundling? Perhaps a useful way of approaching this question is to consider the economic nature of digital services. There are three aspects to consider. The first concerns cost structure. Building a digital service platform entails hefty fixed costs for things like setting up a user interface. On the other hand, the marginal cost of reproducing services is negligible.

The second aspect is industrial structure. Traditionally, it is the service provider who bears the fixed cost, so the service provider must have sufficient financial clout. However, the rise of digital platforms has changed the situation. These platforms match supply with demand in real time, enabling services that were traditionally bundled in terms of time, space, and organization to be delivered unbundled.¹ In other words, the platform provider is unbundled from the service provider. Since the service provider bears no fixed cost and only minimal marginal cost, mass customization is possible. The platform provider on the other hand, in hosting the unbundled array of services on its platform, must exercise financial clout and work hard to recover the fixed cost.

The third aspect is demand structure. If many users flock to a platform, the platform will also attract a large number of service providers along with their various services. In a competitive market, this network effect (when the economic value of something increases in proportion to the demand for it) will lead to the more popular and successful service providers dominating platforms. Once monopolized by a service provider, a platform will serve as the service provider's business base, creating an economic ecosystem.

Open Community Platforms

The shift from the industrial to the information society was accompanied by an increase in people flows. In cities especially, much of the social and economic interactions are between strangers. By contrast, traditional communities would have long-standing neighborly networks based on which the community members would barter with each other and owe each other favors.² However, as it became increasingly common for transactions to be between strangers in communities with no hierarchical power relations, it became difficult to form long-standing trust relationships. Accordingly, money became a much more convenient means to pay for things. The majority of transactions then started being conducted in a market space, where people were free to enter and exit as they pleased, as opposed to within insular communities. Under these circumstances, it made sense for money to circulate widely.

¹In the field of social infrastructure, this concept corresponds to publicly built but privately operated facilities as well as to the separation of infrastructure from operation.

²Even today, vast quantities of rice in Japan are given free to intellectuals and relatives.

Price is a critical piece of information that needs to be communicated to buyers. Price, in a matching process, is determined by the market mechanism, or what Adam Smith called the “God’s invisible hand.” However, just because things are priced does not necessarily mean that they will be traded efficiently. If buyers cannot easily observe the quality, then according to Gresham’s law, which states that “bad drives out good,” low-quality goods will drive out high-quality ones (Akerlof 1978; Ohashi 2017). Oftentimes, it is necessary to create an alternative mechanism to communicate the value of quality. An example is a certification system, in which a designated organization certifies a product or service, assuring buyers of its quality. Such a mechanism is essentially an attempt to recreate the kind of trust-based transactions within traditional communities. In a traditional community, sellers have an incentive to maintain quality because if they sell poor quality, they are penalized in some way.

In Society 5.0, the market mechanism should be more sophisticated and able to correct faults in the market. Big Data gathered by the Internet, sensors, and digital technology will be subject to sophisticated AI-based analysis, enabling economic transactions to be conducted across digital platforms that communicate various information, not only price. Some elements of this system are already here. Uber, for instance, provides both driver and rider information and lets riders rate their drivers. In Society 5.0, these platforms will allow the best of both worlds—a borderless market in which one can enter and exit as one pleases and, at the same time, a community-based market that gives buyers a range of information other than just price. The idea of an open community might once have seemed like an oxymoron, but digital platforms, in matching supply with demand, do indeed combine openness and community.

The Advantages and Problems of Digital Platforms

The open communities that digital platforms will serve an indispensable market function in Society 5.0’s trading. These platforms facilitate trade by indicating non-monetary information as well as monetary price. This information empowers buyers to make informed choices about what to purchase, and the culmination of these consumer choices will encourage businesses to develop more creative products and services to compete.

Markets should be fair, but they should be so *a priori* (at the outset) as opposed to *a posteriori* (in outcome). Some businesses will succumb to competition and be forced out of the market. One occasionally hears the argument that markets should be a level playing field *a posteriori*, but we must remember that if we let every competitor be a winner, there will be no incentive to enhance quality or efficiency, and so buyers will lose out. So although we cannot make digital platforms fair *a priori* and *a posteriori*, we must also bear in mind two competition-related issues (Ohashi 2018).

First, when it comes to public services that are essential in our lives, such as infrastructure, we must reproduce the system of mutual supplementation that existed in

communities. Take, for example, the privatization of infrastructure. The government is pursuing a plan to entrust the management of infrastructure such as waterworks and roads to private operators as part of a structural reform and regulatory easing project intended to encourage creative innovation in the private sector. Traditionally, the whole infrastructure was maintained through cross-subsidization; profitable infrastructure propped up unprofitable infrastructure. However, if profitable infrastructure is in private hands, the survival of unprofitable infrastructure becomes doubtful. As public services become increasingly marketized, services with doubtful profitability may be shed. We need a system that distinguishes between those services that should emphasize profit and those that should prioritize the public good over profit.

The second point is that we must address the information asymmetry in digital platforms. Austrian-born economist Friedrich Hayek saw markets as places for communicating information. Through market-determined pricing, participants' private information is shared on the market as public information, which allows the market to play a public role—that of balancing demand with supply. In so doing, the market stores public knowledge and becomes democratized.

However, digital platforms differ from Hayek's conception of the market in that the platform operator profits. There is considerable information asymmetry between the platform operator and the platform participants; the latter share their knowledge with the platform operator but not with each other. If the knowledge becomes a tool of the platform operator, then this nullifies the advantage of the participants possessing knowledge; consequently, the participants' services become commodified. This situation creates a profitability gap; platform operators achieve sustained profitability by gathering the knowledge and using it to make their operations more efficient, while the platform participants struggle to maintain profitability because their services are commodified. We are already witnessing these gaps growing at an alarming rate in digital platforms.

If the platform participants have the option of switching to an alternative platform operator, they may find a way to avert the commodification of their services. However, if there is a strong network effect, this will create the winner-takes-all situation described earlier, eliminating all but a few platform operators. This bottleneck will deprive the participants of choice.

The Consumers' Society 5.0

In *Future Shock*, futurists Alvin Toffler argued that economists are “conditioned to think in straight lines” and thus tend to see the future as a “straight-line projection of present trends” with no break from the past (Toffler 1984). This tendency has become all the stronger in today's society, which calls for evidence-based decisions and evaluations.³

³In Japan, for example, there is now evidence-based policy making right across government.

This section might not have added significantly more to Tofflers' critique, but it has discussed how digital platforms offer an advantage (in that they create open communities) and disadvantages (the bottleneck and information asymmetry) in the context of Society 5.0, a society that seeks to further promote human liberty.

To minimize the problems of digital platforms, we must find ways to restrict excessive cutthroat competition, and this can be achieved through the general-purpose technologies of Society 5.0 and the science underlying them. The general-purpose technologies are vulnerable to monopolization, so we will need social institutions that can prevent this risk. The EU's 2018 guidelines offer some suggestions to this end, in particular, the regulation on promoting fairness and transparency for business users of online intermediation services (The regulation on promoting fairness and transparency 2019). This regulation enshrines the principle of fairness in transactions between platform operators and related businesses. The fact that bottlenecks can so easily occur in the platforms makes it all the more necessary to ensure transparency and impartiality, the requisites for fairness. Only once this fairness is assured will platforms function properly as highly advanced markets, allowing buyers to thrive as "opportunity-creating" (Masuda 1989) entrepreneurs and setting the stage for Society 5.0.

6.3 Role of Cash in a Data-Driven Society

Two Ways of Going Cashless

Cash is the most essential infrastructure for underpinning people's economic activities. IT and the IoT transform cash in two main ways.

First, they make cash digital, where once it was physical. The expression "going cashless" usually refers to promoting monetary transactions through credit or debit cards or by other alternatives to handing over hard cash. As used here however, "going cashless" refers to the use of digital currency as an alternative to hard cash.

The Bank of Japan (BOJ), which is responsible for issuing the nation's banknotes, can track the circulation of each 10,000 yen banknote based on its serial numbers. The BOJ cannot, however, tell who currently holds the banknote or what it has been exchanged for and where. In this respect, hard cash has a very anonymous element. This anonymity is one of the defining features of hard cash, but it also represents a technical limitation. With digital currency, on the other hand, you can, at least in principle, trace who has the money and where it is being used.

In a data-driven society, the more data there are the better (as these data are the fuel that "drives" the society). Yet the cost to anonymity cannot be ignored. The key to making digital currency a success then is to address people's fears about losing their anonymity. This personal data issue is the most important issue to address when designing the data-driven society. As we see with the recent EU discourse on data portability, the debate over personal data boils down to the issue of who has the right of ownership over data such as one's purchase history. The anonymity of digital currency is an emblematic example of this issue.

The second kind of cash transformation concerns the proliferation of moneyless transactions. In other words, people are buying things without hard cash or electronic money. When we buy something, we usually pay for it in money. This payment provides a source of revenue to the seller. In this way, money becomes the economic lifeblood.

That does not mean, however, that money mediates all transactions. When parents prepare meals for their families, we do not expect the family members to pay money for the service. Moneyless transactions also prevailed in rural communities until fairly recently: farmers would distribute surplus crops to their neighbors, and neighbors would lend a hand with the farm work *pro bono*. There have been communities larger than families in which money did not mediate the members' relationships.

If paying for things with money is "monetary economics," then paying for things without money is "nonmonetary economics." Historically, nonmonetary economics prevailed, but monetary economics rapidly proliferated after the Industrial Revolution. Nowadays, we usually measure a country's economic well-being by the scale of its monetary economy, and disregard its nonmonetary economy. Hence, the nonmonetary economy is considered only minimally when calculating gross domestic product (GDP). The reason is that there is a tacit understanding that nonmonetary economy tends to be smaller relative to the monetary economy.

However, this situation has recently started to change. Technological innovation is driving the proliferation of nonmonetary economies. The world is increasingly going cashless. "Going cashless" might not be an ideal term, but it does usually refer to the proliferation of nonmonetary economies. Wikipedia is an example of this trend. It was not so long ago that each family kept large encyclopedias, such as the *Encyclopaedia Britannica*, on their bookshelves. These encyclopedias of course had to be paid for, and they were by no means cheap. Adults and children alike would look up facts in these encyclopedias. Nowadays, we use Wikipedia instead. Wikipedia is very convenient; one can look up something easily and the articles are updated frequently. Moreover, it is free to use. Fewer people use traditional encyclopedias, and unsurprisingly, *Encyclopaedia Britannica's* sales are flagging.

To pay for an encyclopedia with cash is an example of monetary economics. To look up something on Wikipedia for free represents nonmonetary economics. Thus, an economic activity that was once monetarized has become non-monetarized.

Consider another example. Figure 6.1 shows the rate of increase in the number of photos taken throughout the world. The rate begins to rise gently in the latter half of the twentieth century, after which it skyrockets. This development illustrates a change in the economic significance of photography. In the past, pictures were captured on film and then developed and printed. The process was accompanied by payable services and products provided by the manufacturers of cameras and film, as well as the shops that developed and printed the images. Nowadays, people take snaps on their smartphones and upload the images onto social media; they do not require the photos to be developed or printed. Camera manufacturers have no input in the activity. Hence, companies such as Kodak are feeling the pinch. As this example illustrates, we can see that monetary economics is the preserve of traditional companies that fail to ride the wave of technological innovation, while nonmonetary

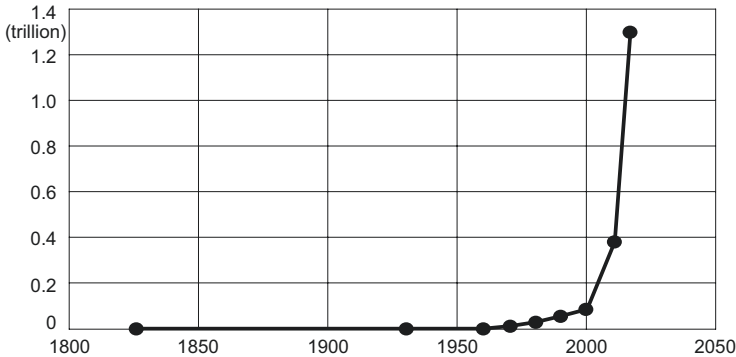


Fig. 6.1 Number of photographs taken in a year. Source: <https://digital-photography-school.com/history-photography/>

economics is the preserve of companies that achieve success underpinned by technological innovation.

What are the implications of the rise of nonmonetary economies? In monetary economies, the pricing of goods and services acts as a signal that contributes to a positive loop, in which the more people want the goods or services the more they are produced. This is called the pricing mechanism. Products that are more popular (desired by more people) will fetch higher prices. The producers of such high-price products are then motivated to increase their supply, as doing so will earn them profits. The increased production will give more consumers a chance to buy the product and thus spur more consumption.

In nonmonetary economies, the reverse is true. Because there is no pricing, the producers are unsure at what volume to produce the products. Consequently, the supply can be low even when the demand is high. Another difference is that although monetary economies can be measured using economic metrics such as GDP, these metrics have little use in nonmonetary economies because the activities therein are not calculated in monetary terms. Thus, a new kind of system is necessary to measure the vibrancy of nonmonetary economies.

In the following section, we consider the backgrounds to these two forms of cashlessness and their significance.

The Society That Digital Currency Enables

Consider first the benefits of converting hard cash into digital currency. The first benefit is that the costs associated with cash transactions are cut and the Japanese economy is made more competitive. Cash is primarily used in banking and circulation. According to Mizuho Bank's estimates, banks typically spend around 2 trillion yen a year on managing accounts and maintaining ATMs. Mizuho also estimates that retailers and restaurants spend around 6 trillion yen a year processing cash transactions, for

a total of 8 trillion yen per year. When consumption tax is taken into account, as much as 4% is spent every year on cash processing. One can see how this 4% would eat into the profits of banks and retailers; it should also be obvious that using a more efficient financial resource would boost Japan's economic competitiveness.

The second benefit is that digital currency will enhance Japan's security. With cashless transactions, national borders become irrelevant. Many retailers in Japan have introduced cashless payment services, such as Alipay, in an effort to attract Chinese tourists into stores. Given the sheer popularity of Alipay in China, the service might one day catch on among the Japanese too. If it does, then it would mean that payments in Japan will be processed by a Chinese company, and the payment history data (where and which purchases were made) will go to China. This situation would threaten our economy, not to mention our national security. To offset such a risk, we should take the initiative in making our own cashless system.

Anonymity and Personal Data Management

What schemes are needed to digitize money? Two broad kinds of digital currency are required. The first is privately issued decentralized digital currency. The second is centralized digital currency issued by public institutions such as a central bank. An example of a decentralized digital currency is Bitcoin. Many other decentralized currencies exist, underscoring their considerable market potential. However, Bitcoin and its equivalents have so far been used primarily for investment; they are not widely used for payments. It is hard to imagine that these decentralized currencies will ever replace cash. We advocate the other kind of digital currency. Specifically, we believe in a centralized digital currency that people can trust because it is backed up by a public institution, such as the BOJ. We also believe that this currency should be stably tied to the yen at a one-to-one exchange rate. The confidence this currency commands will make it less costly than its decentralized counterparts.

The most prominent example of a digital currency managed by a central bank is e-krona, which is issued by Riksbank, the central bank of Sweden. This centralized digital currency would allow account holders to transfer their funds to each other digitally. People could use e-krona to pay for things in stores, send funds to each other, and split a restaurant bill. Both Krona banknotes and e-krona represent a claim on the central bank, so they share the same simple structure: payments are made by transferring them.

However, there are three problems with people holding accounts in a central bank. The first concerns anonymity. In the case of banknotes, the central bank cannot tell who is using them and where. However, when account holders use their accounts to transfer funds, the use of the money is plainly visible to the central bank. Some worry that central banks could maliciously exploit this information. Whether or not their fears are justified, most account holders would at least accept that the details of their transaction cannot be completely confidential. Until anonymity is ensured, digital currency will fail to gain traction.

The second problem is that if people can directly hold accounts in a central bank, this would put the central bank into competition with the private banks and their settlement accounts. Currently, there is a reasonable balance between the use of settlement accounts and the use of banknote cash, but if members of the public hold central bank accounts, this balance would be undermined.

The third problem is that broader access to central bank accounts may disincentivize innovation in the private sector. The only technologies that will see practical application will be those that align with the central bank's agenda. If private firms and banks come up with innovative ideas, they might end up being used by the central bank. This situation would inhibit innovation in digital currency. Already, the Japanese Government and the BOJ have a stranglehold over the issuance and the circulation of banknotes, leaving precious little room for private innovation. Digital currency should provide room for technological development; it should not reproduce this status quo.

As an alternative to holding accounts in the central bank, digital currency transfers could be between private bank accounts. This form of digital currency would not threaten private banks' settlement account businesses. It would also address the anonymity issue to some extent, as the central bank will not see the transfer details. These details would, however, be seen by the relevant private banks, so anonymity would be no stronger than it is in the present banking culture. This alternative is similar in many respects to Mizuho's J-Coin Pay and MUFG Bank's MUFG Coin. Both services are pegged to the yen at a one-to-one exchange rate.

To ensure that people trust digital currency as much as they trust their banknotes, the private banks must stipulate clear principles on how they will manage the funds in digital accounts. The most easy-to-understand example is full-reserve banking, the principle that banks should keep the amount of each depositor's funds in the central bank. Many other principles could be used besides this, but the point is to ensure confidence in the banking system that supplies the digital currency, and the central bank along with government (financial regulatory authorities) should play a role in establishing these principles. In other words, digital currency should be designed and provided through public-private partnerships (involving the government, the central bank, and private banks), and indeed such partnership is necessary.

Pricing the Priceless

Now let us consider the other kind of cashlessness—namely the increasing use of moneyless transactions (transactions that involve neither hard cash nor digital currency). Many e-services such as social media platforms and search engines have something important in common: they use nonmonetary pricing models. Twitter, Facebook, Wikipedia, and Google are all free to use. This is a boon to users but a bit of a headache for economists.

GDP is the key metric for measuring economy activity, but it only applies to transactions of payable goods and services. The metric cannot account for nonmonetary

transactions. The popularity of Wikipedia cuts into encyclopedia sales, decreasing Encyclopaedia Britannica's contribution to GDP. Wikipedia itself contributes nothing to GDP because it is free to use. Consequently, GDP declines. The sluggish GDP in recent times reflects this phenomenon to some extent.

Some may wonder how Google and other e-commerce companies can earn so much and whether economists may have made a mistake somewhere. Google's turnover is indeed enormous and much of it comes from advertising. Google also earns profits from marketing users' data, such as their search histories. Although users pay no money for using Google, they do pay in other ways, such as putting up with advertisements. Users essentially barter for the service by offering to put up with the ads, and so no money changes hands.

Bartering means exchanging one thing for another of the same value without using money. A barter, though nonmonetary, could therefore be measured in monetary terms. Some have attempted to indicate the monetary value of e-services so as to quantify their economic value in terms of GDP. The estimates will naturally have their fair share of errors, but judging from the sets of estimates we have seen so far, e-services make only negligible contributions to GDP.

Why should this be the case? Perhaps there is no real bartering going on after all. Users for their part do indeed face the cost of putting up with ads, but how does this cost stack up against the economic value of Google's services? Google's chief economist Hal Varian estimated that Google has an economic impact of 150 billion dollars, significantly outstripping its 36 billion dollars in ad revenue. This estimate seems to suggest that Google is selling itself short; could it not be making a lot more money? It is doubtful that Google would willingly sell its services for a song, so somewhere along the line it must have failed to price its service at a level that reflects the extent to which users appreciate it.

A New Problem with Pricing the Priceless

We have just discussed the question of how to create an alternative pricing mechanism, but there are a host of other issues related to nonmonetary pricing models. One such issue is the divergence between production (e.g., GDP) and economic impact (user's satisfaction). In monetary economies, impact is generally tied to production, so it suffices to check the GDP. However, technological innovation has undermined this linkage, such that GDP can no longer be used as an indirect/alternative indicator of impact. Thus, we urgently require direct measures of economic impact.

Some have suggested using willingness to pay (WTP) or willingness to accept (WTA) as direct measures of economic impact. WTP describes the maximum amount of money that consumers would be willing to pay for a free product. WTA describes the minimum amount of money that consumers would be willing to accept to abandon a free product. Both WTP and WTA are gaged through consumer surveys.

To give an example of these consumer surveys, the team at the University of Tokyo's Watanabe Lab surveyed users of Line, a freeware messaging app. The average WTA (the minimum amount respondents would accept for abandoning Line) was, on the condition that the respondents' Line contacts continued to use the service, 4,070,000 yen per year. This finding suggests that a typical Line user values the service at 4 million yen. There is sizable interindividual variation, but the level of WTP and WTA remains fairly constant even when one discounts the larger responses. When this 4 million yen figure is multiplied by Line's extensive user base, said to be 70 million strong, it amounts to a massive sum indeed. If Line's economic impact is as massive as this, then its actual revenue is tiny by comparison.

Although WTP and WTA are effective measures of economic impact in theory, it may not be practically feasible to conduct the surveys on a scale sufficiently large enough to gage the overall state of a nonmonetary economy. There instead needs to be a technology that can measure nonmonetary activity granularly and frequently. Hitachi developed a system that uses sensors to measure happiness; something similar to this is needed for nonmonetary economies.

6.4 Private Ownership to Collaborative Commons: Wealth in a Postcapitalist Society

Envisaging a Future Society

What do you value in your life? What kind of life do you want? Each person has his/her own answer. Happiness and wealth are ultimately defined by the individual. At the same time, we all live amid the social circumstances of the day. Happiness and wealth are defined in the context of these circumstances.

How a person lives depends on how they interact with the society. Whether you go with the flow or swim against the tide, your life is a refraction of the social conditions of the time.

Society 5.0 is supposed to be different from the societies to date, but exactly what sort of society should it be? In Society 5.0, what will humans value, and what kind of happiness and wealth will they seek?

Society 5.0 is the vision of the future society outlined in the 2016 5th Science and Technology Basic Plan, which states, "(Society 5.0 is) so called to indicate the new society created by transformations led by scientific and technological innovation, after hunter-gatherer society, agricultural society, industrial society, and the information society" (Cabinet Office 2016a).

Society 5.0 remains a catchphrase with little in the way of concrete details. This is well illustrated by the fact that the term "Society 5.0" is not accompanied by a descriptor (such as *hunter-gatherer*, *agricultural*, *industrial*, and *information*). The Basic Plan itself concerns science and technology, and as such, it highlights ways society can use AI, IoT, nanotechnology, Big Data, and similar innovations.

Thus, the kind of society the Plan advocates is one in which production and sales are thoroughly streamlined through high-tech developments such as a “high degree of merging between cyberspace and physical space” and a “supersmart society” (Cabinet Office 2016b).

The Plan also defines the supersmart society as “a society that is capable of providing the necessary goods and services to those who need them at the required time and in just the right amount; a society that is able to respond precisely to a wide variety of social needs; a society in which all kinds of people can readily obtain high quality services, overcome differences of age, gender, region and language, and live vigorous and comfortable lives.” However, there is precious little detail on how technological progress will usher in such an egalitarian society. Will technological progress naturally produce such a society by itself?

History is indeed replete with cases where new technology led to a new society. The invention of the printing press led to the proliferation of knowledge and had a critical impact on education. The proliferation of home appliances socially empowered many people, particularly women. Yet we should also remember that the social consequences of technological progress depend on how the technologies are used. Television and newspapers are used as channels of free expression in democratic societies, but as tools for propaganda and control in those that are totalitarian.

Insofar as Society 5.0 is a vision of a new society, its advocates must think about the shape of this future society. We must also understand how values may change; otherwise society might head down the wrong path, leading to chaos and suffering among people who struggle to adapt to changing times.

We must consider this issue in relation to capitalism, or to put it another way, in relation to monetary value. After all, capitalism is today a critical factor that shapes society most deeply and broadly. Should Society 5.0 be a logical extension of capitalism, or should it be a break from capitalism? We can consider this question by focusing on value and wealth.

What Is Wealth?

The most basic kind of value in a capitalist system is monetary value. In this respect, capitalism has made many societies rich.

From the time of Japan’s high economic growth period until the 1980s, incomes rose and socioeconomic inequalities narrowed. This was a time when most Japanese people identified as middle class, as expressed in the slogan *ichiokusōchūryū* (“100 million middle class”). From the 1980s onward, capitalism widened socioeconomic inequalities both nationally and internationally, creating widespread poverty. Undeniably though, wealth has been maintained at a society-wide level. Even more importantly, there is a common society-wide understanding of the *meaning* of wealth, and society and individuals alike emphasize the importance of acquiring wealth according to this meaning.

So what is wealth? In the capitalist sense, wealth at a national level is expressed in GDP—the market (added) value of all goods and services. When a nation's GDP rises, it indicates economic growth and greater wealth. At an individual level, wealth increases when the person's wage increases. Both types of wealth are monetary. To obtain wealth, nations seek to increase their GDP, and individuals seek to increase their wages. In this way, capitalism relentlessly drives the pursuit of growth.

But as Tomas Sedlacek asked in *Economics of Good and Evil*, can we have capitalism without growth, and can we find a way to wealth without economic growth or higher wages (Sedlacek 2013)?

In the minds of some readers, these questions may have evoked the idea of abstaining from pleasures and leading a frugal existence of scrimping and saving. However, even today there is no scarcity of examples of wealth that cannot be measured by GDP or wage levels.

Each prefecture of Japan has monetary measures of wealth such as GDP and wage levels, which indicate how rich or poor that prefecture is. We tend to define regions as poor when they have low GDP and wage levels.

However, this does not necessarily mean that the inhabitants of these regions are poor; just as incomes in these regions may be lower than those in urban areas on an average, so too are the living costs (goods and housing). Some people would find life out in the sticks dull due to a lack of cultural and leisure activities (hence, there is an outflow of young people), but the countryside is not without its own kind of wealth: the pace of life is more relaxed, there is plenty of delicious and inexpensive products, and one can lead a healthier lifestyle. When it comes to education, rural areas face a disadvantage in that there are relatively few cram schools and activity clubs, but urban environments have high schooling costs, which can squeeze family budgets. Arguably, a price cannot be placed on raising a family amid the abundance of nature.

If you live in a rural community, you might have to lend a hand in community undertakings such as clearing land and festivities. Townies might regard these voluntary activities (or rather, duties) as burdensome obligations. These obligations do indeed put many people off from moving from the city to the country. Then again, in return for fulfilling these obligations, one can partake of mutual community assistance in its various forms.

I am not trying to say that life in the country is a rich life and that city living is a poorer life, but that monetary measures like GDP and incomes cannot simply be used to determine where life is rich or what kinds of lives are rich.

What then is nonmonetary wealth?

Monetary and Nonmonetary Wealth

In a capitalist system, wealth is market value, that is, exchange value in monetary terms. What is exchanged for money depends on what is traded on the market. Capitalism assumes that economies grow when there is a continuous increase in the

range and scale of market trading. All goods and services traded on the market are monetarily valued, and the higher the value is, the larger the GDP will be.

The goods and services traded on the market are all desired by at least someone for some purpose, but not everything on the market is truly desirable or would contribute toward a richer life. Medicines represent an example of goods that do not make people richer. If many people have a certain disease, drugs that can prevent or treat this disease will sell in high volume, along with related products, and GDP will rise as a result. Another example is disposable products, which people use and then discard without a second thought. These products contribute to GDP in that they can be continually produced and consumed. They further contribute to GDP in that they lead to services related to the reuse or recycling of the disposed products.

Although these things contribute to GDP and incomes, they do not necessarily make people's lives richer. In some cases, they may even decrease QoL.

When we consider it, it becomes obvious that monetary value is disconnected from the richness of our lives, even if it partially overlaps. Indeed, much of our wealth cannot be measured in monetary terms.

The richness of our lives is a product of psycho-spiritual qualities such as camaraderie, affection, goodwill, sincerity, trust, serenity, and self-confidence. These things exist outside the market and they are unexchangeable. They have no monetary value.

That is not to say that they have nothing to do with money. Some argue that you cannot be happy without money and that money can buy love, and they are not completely wrong. If clothing and food are ample, then people understand ritual and moderation. When we lack the material necessities, we experience inner turmoil too.

The reason poverty is associated with a lack of monetary/exchange value is that when one cannot afford things monetarily, one often cannot acquire nonmonetary things either. Camaraderie and love, for instance, are not measured in monetary terms per se, but they may require the acquisition of things that are monetary.

So people who renounce all but the most basic material necessities in pursuit of an esthetic poverty and simplicity will not live a rich life, unless, that is, they really are able to live with only the bare necessities. Inasmuch as the nonmonetary psycho-spiritual qualities are not constituent parts of capitalist society, society will be less likely to define these things as valuable, even if these things do contribute to individuals' well-being.

“Use Value” Without “Exchange Value”

So psycho-spiritual qualities such as happiness, love, and trust have no intrinsic monetary exchange value in that they cannot themselves be exchanged on the market. There are also examples of things that once had monetary value and were once traded on the market (even today, they continue to be traded in part), and yet have all but lost their monetary value.

It is not that no one needs these things or that there is no need to use them. On the contrary, they are exceedingly valuable and they are in use. In other words, they

have zero exchange value but paradoxically have a high use value. They are things that many of us use free of charge. Today, the world is awash with these things, and they are increasing in number.

What I am talking about are e-services, which use ICTs, and the Internet (which itself is free). Examples include freeware, email, message boards, Skype, Line, and Facebook. These e-services have become akin to social infrastructure: they are so valuable that we could scarcely live without them. Under market principles, these e-services are not exchangeable in and of themselves, but they underpin the very process of exchange.

The fact that e-services have use value without exchange value does not mean that they represent a rare exception or a fluke. According to Jeremy Rifkin, these e-services reflect an economic shift from capitalist markets to a Collaborative Commons (Rifkin 2014).

Rifkin argues that capitalism will, by historical necessity, lead to its own demise, giving way to a Collaborative Commons. In a capitalist system, Rifkin asserts, companies seek to increase their profits, and they do so through technical innovation and cost-cutting measures, which are designed to improve productivity and minimize marginal costs (production costs per unit). Those companies that accomplish this task effectively will gain the upper hand in a price war, allowing them to corner the market and nudge out their competitors. This process will create continued competition in price and quality (provided that the market is not monopolized by a single company or by a cartel). Sooner or later, the marginal costs will approach zero. Eventually, the products and services will become tantamount to free, and profits will also be erased.

According to Rifkin, this outcome is the final destination of free-market capitalism. Rifkin cites publishing as an example. Although the process will not occur for each and every book, and neither will the process occur at the same speed in each case, the digital publication of e-books will remove the costs of publishing itself while also making the content readable for free. Similarly, Skype allows free video calls. Education is another example; MOOCs and other kinds of online courses allow people anywhere in the world to access education services for free or at minimal cost. Likewise, many software programs can now be downloaded as freeware, whereas they once had a hefty price tag.

In energy too, the proliferation of small-scale renewables will lead to zero marginal costs. In addition, the rise of 3D printing and the arrival of free design software enable the creation of all manner of products in private homes or small production sites, as well as larger sites such as factories. Taken to the extreme, an individual might even be able to directly manufacture the products needed.

IoT—the online connectivity of tangible things (such as buildings, vehicles, home appliances, and manufactured goods)—allows us to understand where goods are in short supply and where they are in surplus, allowing us to efficiently fill in shortages. For example, Airbnb lets users exchange information on vacant rooms and to offer these rooms as lodgings. Uber facilitates car sharing in a similar manner. This peer-to-peer sharing extends to clothes and other daily necessities.

Some of these services are payable. It is not always clear when payable services will become free, but as Rifkin argues, the Collaborative Commons will only grow ever larger in the future. This trend is not necessarily at odds with capitalism. The Collaborative Commons is, in fact, supported by capitalism and it develops in tandem with it. In the course of this process, fewer goods and services will be exchanged, leading to a smaller GDP, but that does not mean that wealth declines. The question then is what does wealth mean in the context of this process and what changes will occur in the values underpinning such wealth?

Sharing as a New Value

Economies generally distinguish between exchange and use value, but in the Collaborative Commons, the value of products and services might not purely be their use value. When the marginal costs of a product become zero and the product becomes free to use, it will cease to be exchanged. That is not to say, however, that everyone will cease using or desiring the product. It is important to note that in these circumstances the product's use value will increase, not decrease. The reason why the product is not being exchanged is not because it lacks value; it is simply because the product is being shared.

In such circumstances, there is value that should be shared, and value that is generated from sharing. Conversely, market capitalism is premised on (private) ownership, and exchanges occur when there is a transfer in ownership rights. With sharing however, there is no such exchange. If everyone uses a product, it means that the product is shared. With such sharing, exchanged products and services will enter the market and gain monetary value. In this way, common value is a requisite to monetary value.

The Collaborative Commons will expand the bounds of common value, such that many products will be commonly accessed without anyone privately owning them. This situation will decrease market transactions, GDP, and incomes, but wealth will remain high.

The present capitalist society defines wealth as how much an individual privately owns. In the Collaborative Commons, wealth is measured by how much is shared. One can be rich without owning lots of things and without earning the money necessary to own lots of things—it is not necessary to be Mr. Moneybags to be rich.

It might be possible to quantify this new sense of wealth using ICTs and the IoT. Many of the technical innovations underpinning Society 5.0 are closely related to common value and the Collaborative Commons.

However, we cannot be so certain that sharing is correlated with happiness. Perhaps, the more one shares, the more stressed one becomes, as there will be more things to worry about. Higher amounts of sharing can also entail a greater amount of management, which could easily be used to justify surveillance and control by the powers that be. As we work to make Society 5.0 a reality, we must also address the question of how technology can overcome these dangers.

6.5 Society 5.0 and “Human Co-becoming”

What Is Society 5.0?

What kind of society does Society 5.0 aim to realize? Some would say that it is a society underpinned by technologies such as the IoT, Big Data, and AI that overwhelmingly exceed human abilities. Such a society might be utopian, but it could potentially be dystopian too. We can see Society 5.0 as a future utopia, in which we live comfortable and convenient lives, largely emancipated to a great extent from the need to work, while we can see this as dystopia—a society where humans are in fact controlled by technology, such that they have nothing meaningful to do but languish every day in utter boredom.

Whether utopia or dystopia, the dream (or nightmare) itself of a technologically advanced future society is not particularly new. Throughout the twentieth century we have attempted time and again to envisage such a futuristic society. If there is a new opportunity in the idea of Society 5.0, it would be relevant to rethink the way of living of humanity in a world where we are blessed (or controlled) by advanced technology.

The Modern Humanity and Capitalism Based upon Things

If we are to rethink what humanity is today, we have to interrogate the relationship between humanity and capitalism, the principle that has significantly regulated the contemporary world. Michel Foucault asked this question around half a century ago in 1966:

As the archaeology of our thought easily shows, man is an invention of recent date. And one perhaps nearing its end.

If those arrangements were to disappear as they appeared, if some event of which we can at the moment do no more than sense the possibility—without knowing either what its form will be or what it promises—were to cause them to crumble, as the ground of Classical thought did, at the end of the eighteenth century, then one can certainly wager that man would be erased, like a face drawn in sand at the edge of the sea. (Foucault, Michel, *The Order of Things: An Archaeology of Human Sciences*, London: Routledge, 2002, pp. 422)

The era of classical thought, which existed through the seventeenth and eighteenth centuries, gave way to the era of modernity. The era of modernity that existed in the nineteenth century was underpinned by the concept of “homme” that is “man” or “humanity.” According to Foucault, this concept would come to an end in the twentieth century.

The development of capitalism is keenly connected to this shift of the eras and the concept of humanity. Adam Smith published *The Wealth of Nations* in 1776, heralding the arrival of modern capitalism and the modern concept of humanity. His major idea is as follows: in the era of classical thought, wealth was based on exchange of goods, while in the era of modernity, it was based on production of

things by human labor. We could characterize this modern way of production as capitalism based upon things. Human labor produces things, from which wealth is derived.

The Consumption of Differences and the Rise of Capitalism Based upon Events

Foucault thought that this modern paradigm began to shift in the twentieth century. What happened in the twentieth century, particularly in the latter half? Capitalism shifted its focus from things to events. In other words, capitalism based upon events emerged. Capitalism went to handle information and happenings as events for its investment. Amid an ocean of information stirring up our desires and prepackaged happenings for our experience, we started consuming differences and were ourselves reduced into consumable differences. Modern “subjectivity”—which was never realized in its full meaning—was dissolved into pieces. Instead, humanity as difference or relationality appeared.

However, what we have to ask now is the question of what actually defines us as humanity. Humanity is something singular, which is irreducible either to consumption or to the order of the difference. We are urged to interrogate what humanity is after Foucault’s criticism. At the same time, we must think how we can imagine the forthcoming capitalism after capitalism based upon things and events. Thus we can start sketching out the future society which the idea of Society 5.0 tries to elaborate.

“Human Capitalism” and “Human Becoming”

I would propose, as a hypothetical concept, an idea of “human capitalism.” By using this concept, I am figuring out the humanity neither as laborer, nor as consumer, nor as humans as nodes of difference, but as *value*. Once advanced technology emancipates or deprives us from labor and consumption, what aspect of humanity will become the focal point of capitalism? I think that we need to reformulate capitalism so that it helps us create human value, rather than depriving us of it. To this purpose, it is inevitable to think what the ultimate value is for the humanity.

To put it bluntly, the value for humanity is the transformation of humans themselves. Influenced by modern economic discourses, we often think that value is something that we own as property. It does not work well, because it is just a conversion of the value of the commodities that we produce and consume into human value. We have to separate human value from property-based imagination.

Let us imagine once again what a future society empowered by advanced technology might look like. In this Society 5.0, what would we possess as values? Automated vehicles? Smart AI systems to provide the optimum solutions by

analyzing Big Data? Or creativity of arts irreducible to the advanced technology? How do you think of it? It seems that these ideas of property-based values are too clichéd.

The twentieth-century imagination of the future society lacked a possibility that humans would fundamentally be transformed. Philosophically speaking, the idea that humans will be transformed equates to the idea of the human as *becoming* something human, as opposed to the Western traditional idea of the human as *being* or *having*. I propose to think of human becoming instead of human being by referring to Roger T. Ames (Ames 2010; Rosement Jr and Ames 2016). The word “capitalism” derives from the Latin *capitalis*, meaning “head,” and a person’s head is a matter of life and death. The future of capitalism will certainly be a matter of critical importance, determining the fate of human life and death.

Capability and Social Mobility

What will this critical matter be for us? The answer is simple: becoming *human*. We cannot become human by ourselves. It is only when others come to engage us that we become human. No one is a separated and independent entity—this philosophical notion belongs to the same series as being and having. We become human with others. In a word, we are human *co-becomings*.

Japanese Zen master Dōgen (1200–1253) discusses “taking an immediate reception here and now” in his earlier work *Gakudō-yōjinshū* (The Collection of Advices on Studying the Way) (c.1234). In this section, Dōgen states that there are two paths in Buddhist practices toward the enlightenment: “to visit masters and listen to their teachings” and “to make practices of sitting.” The former path changes one’s mind, while the latter path changes one’s bodily experience. Two of them are sine qua non to complement Buddhist practices. In order to reach the state of “taking an immediate reception here and now,” Dōgen proposes that we should contract our egos to open up a space for the others. In this space, we are immediately receiving the others including Buddha. The key word here is “others.” It is obvious that in “visiting masters and listening to their teachings” Zen needs “masters” as others to guide us to be enlightened, although it is regarded as a symbol of self-powered Buddhism (Miyakawa 2013).

To illustrate this concept with a contemporary example, let us consider someone who is socially isolated, who rarely communicates with anyone. This person spends the entire day at home watching TV. We would say that this person just has limited capability. Capability is defined by Amartya Kumar Sen as “a person’s actual ability to do the different things that she values doing” (Sen 2009).

So how can this person’s capability be increased? For example, in a community which has no water supply, what would increase that community’s capability more must be to teach the community how to dig a well rather than to give the community a drink vending machine. If that is the case, for the person socially isolated, which

would increase one's capability more: buying him/her some DVDs to watch, or teaching him/her to ride a bicycle?

In the forthcoming society, the direction of our investment would be emphasized in the enhancement of human capability and the transformation of our way of living along with body and mind. Such investment will in turn provide fresh opportunities for us to change our habitus eventually. If, as part of the discourse on Society 5.0, we are to establish new indexes for better society, an urgent task is to find what could describe capability open to new chances for the way of living, i.e., habitus. For that sake, we cannot forget the dimension of engagement with others. To encourage engagement with others, it is important to foster an open attitude to receive others as Dōgen says, before letting socially isolated person to fall into self-consumed or self-destructed situation.

Once capabilities in a society are enriched, social mobility will increase accordingly. A rich society is often described in this way: the social mobility is much higher and the fixation of social class or social disparity is relatively weak. For example, Japan achieved a leap forward in social mobility during the Kansei era (1789–1801), when the government introduced a recruiting system based on the civil service examinations of Imperial China. The future society should have indexes for the fluidity of social mobility as well as the enrichment of capability. I would like to repeat again that it is important to pay much attention to the engagement with others.

Engaged Knowing

Having considered these points, we come to have an elaborated idea for the way of knowing in the forthcoming society.

In modernity, as symbolized in then university system, there occurred the first transformation of episteme, in which knowledge became systematized and proliferated across a nation-state. The characteristics of this modern episteme consisted of the historical investigations on origins and comparative studies based upon philology. It was this epistemic structure that interested Foucault in his economic analysis of labor, his biological analysis of life, and philological analysis of language.

After entering the twentieth century, the second transformation of episteme occurred. It was the result of society shifting its capitalistic object from things to events. The difference as digitalized information became important in this new episteme. University system also changed to reflect this transformation. The main procedure in university is now based upon information processing in the realm of engineering. Meanwhile, the humanities and arts which once guided the modern episteme are on the decline.

However, such a contemporary episteme has once again reached a turning point today. As mentioned at the beginning of this chapter, when Society 5.0 is realized in a future with its advanced technology that far exceeds human abilities, our contemporary episteme would be taken away from us.

If that is the case, we will confront the third transformation of episteme, in which “engaged knowing” could be introduced to enhance human *co-becoming*.

Thomas P. Kasulis has identified the formidable potential of engaged knowing in Japanese philosophy. This is what he says about Kūkai in his book entitled *Engaging Japanese Philosophy: A Short History*:

Kūkai’s intention was instead to know reality somewhat like how we *know a person*. Not to be confused with knowing *about* a person (which derives from reading and hearing about that individual), truly knowing a person involves some shared intimacy. To know another is to be inside that person’s world, to interact or overlap with the person in such a way that the other person becomes part of your own life. Rather than objectifying the other, you share something with the other.

Even in knowing an object, there can be a difference between a detached and engaged form of knowing. For example, skilled craftspeople do not just know about their tools and their media; they know them intimately by working with them, modeling their technique after the exemplary masters of the craft. By that process, woodcarvers come to perceive the uniqueness of each piece of wood and each chisel. They work *with* the wood based on an engaged, embodied knowing that allows the wood, the chisels, the artist’s hands, and the artist’s mind to be a harmonious whole, a single act of engagement.

Similarly, when Kūkai left the academies on his quest to understand, he wanted to engage the world intimately, not as a detached observer. He wanted to know all of reality the way a potter, not a geologist, knows clay. By the time he returned from China, Kūkai had experienced firsthand the difference between the two kinds of knowing and was ready to explain it as the contrast between *exoteric* and *esoteric*. (Kasulis, Thomas P., *Engaging Japanese Philosophy: A Short History* [日本哲学小史], Honolulu: University of Hawaii Press, 2018, pp.108–109)

Kūkai wanted to know everything. To him, “detached knowing” was not enough. Instead, he advocated “engaged knowing.” It is an intimate knowing in which we share our secret with close friends. According to him, this is what esoteric Buddhism is all about.

It is important for us to live as if we were Kūkai. To this end, it might help somehow to synthesize his teachings in a philological way or it might be interesting to design Kūkai-like AI robots, who could teach us on esoteric Buddhism in a way relevant today. However, those approaches are just “detached knowing” in which we are still spectators to our world. Along with Kūkai, we must train ourselves to engage with the other, understanding that, as Kūkai said, “the other person becomes part of your own life.” This task is indeed a capital matter to us.

The Human Co-becoming

As a conclusion, I would like to summarize my argument in this chapter. In order to ensure that Society 5.0 does not become a dystopian society, we have to redefine the modern concept of humanity and find a path toward the human co-becoming with others. Nonetheless, this path is not so easy, because humans are open to possibilities to transform themselves into any direction including undesirable one. In other words, we do not have a fixed *telos* for co-becoming.

Fortunately, however, we have plenty of precedents to guide us in this way of human co-becoming. Of these, I intentionally pick out some Japanese cases such as Dōgen and Kūkai, as they offer insights about human co-becoming. To be sure, there are countless other examples throughout the world. Dōgen and Kūkai themselves both spent time in China, which to these Japanese visionaries represented a major “other,” and this experience might have spurred them on in their pursuit of “engaged knowing.” As long as human co-becoming is connected with our capability and social mobility, it will be much more enriched through the attitude to embrace plural and different languages and worldviews.

It would be wonderful indeed if our ancient knowledge like that of Dōgen and Kūkai, which is far prior to the epistemes of the nineteenth and twentieth centuries, turns up again in the future society in a new form.

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