DISCUSSION PAPER

An Asian perspective on the governance of cyber civilization

Jiro Kokuryo[1]

Abstract

This paper proposes potential benefits of adopting Asian philosophies in considering the design of "cyber civilization" governance. The West is currently struggling to balance the use of data for commercial purposes with the social good stemming from the protection of personal privacy and dignity. It is also grappling with the idea of machines having autonomous capabilities that human minds alone were supposed to monopolize. East Asia, with its tradition of Confucianism, Buddhism, and animism, has long emphasized the virtue of mutual benevolence as well as conviviality with nature, both of which may be contrasted with the Western emphasis on the autonomy of individuals and the supremacy of humans over nature. We need to revisit such foundational schools of thought in view of such factors as network externalities of data, extremely low marginal cost of digital services, and high level of traceability, all of which are altering the historical prerequisites of the modern market economy. In the face of the emergence of a new civilization, we need to find a guiding philosophy which allows us to develop policies that adequately benefit all people. There are notions such as integrity (fiduciary responsibility) that East and West share and that may be adopted to build broadly acceptable governance principles.

Keywords Philosophy · Ethics · Governance · Asia · Cyber civilization

JEL classification B · K · M · P · Z

Introduction: Overview of the structure of the paper

This paper explores the potential benefits of applying Asian philosophical logic to the governance of digital society. It also searches for a common principle that can be shared by both East and West in order to resolve the current situation in which either criticizes the other on different ethical grounds. This is to be accomplished first by analyzing the importance of individualism in the development of modern western civilization. We will then look at how certain attributes of digital

technology are fundamentally changing current economic forces and thereby urging us to rethink the ethics on which to build society. In order to identify the issues ethics should address in the "cyber civilization," the paper then develops a framework within which to analyze the relationship between technology, wealth and social governance, all of which collectively form civilizations.

This will be followed by an analysis of Asian communal ethics with their emphasis on loyalty to trustees, suggesting that such ethics may provide an alternative to individualism in governing the cyber civilization. The author points out that such a notion is actually shared by the West in the emphasis of fiduciary responsibilities. The paper refers to the regulatory policy of major platforms in cyberspace as an example of how such a shareable philosophy may be applied.

At the theoretical level, we intend to add a new dimension to the discussion of ethics in the use of information technology, most notably of AI (Floridi et al., 2018), and closer to the readers of this journal, in determining the principles governing the management of personal data (privacy) in electronic markets (Spiekermann et al., 2015).

✉ Jiro Kokuryo
  jkokuryo@sfc.keio.ac.jp

[1] Keio University, Cyber Civilization Research Center, Tokyo, Japan

This paper is presented with the intention of stimulating discussion around ethics in the digital age. Readers are advised that the characterization of Eastern and Western civilization may appear oversimplified if applied to purposes outside the scope of this paper. The characterization of Western Civilization, in particular, is limited to relatively recent trends that have grown out of the Industrial Revolution. It is acknowledged that any society is naturally more multifaceted and multi-layered, reflecting a considerably longer and deeper history than drawn upon here.

First question: Is Chinese civilization better suited for governing technology in the digital age?

Today, most discussions in the West on the governance of big data are based on the conviction that privacy requires protection. Privacy is considered integral to human rights, based on the individualistic values of modern Western philosophies (Lau, 2020). Such values are often taken for granted without second thoughts. But perhaps we should question the virtue of individualism (Miller et al., 2016), at least in order to understand the thinking found in societies that seem unhesitant to violate it. This is relevant today, because data has the character of being a "public good" that is better utilized by sharing it socially. Asian philosophies of altruism, (Hongladarom, 2020), with an emphasis on the virtue of contributing to society rather than that of selfish protection of individual rights, could be argued to serve society better. Asian philosophies that also emphasize integrity and respect for others may accomplish this without violating the dignity of people. Thus, this paper proposes qualified support for such alternative Asian views that might be applied for better governance of data while upholding and protecting the dignity of individuals.

Parallels can be found in the perception of "mind" and "autonomy" when discussing the governance of artificial intelligence. The West has been viewing human beings to be superior to other beings for their possession of mind and the autonomy deriving from it. In that context, the prospect of "general artificial intelligence," which assumes human-like intelligence with perhaps increased intellectual powers, becomes a serious threat to the mastership of humans in the cosmos. Here again, Asian animistic tradition, which regards humans simply as part of nature – rather than at the top or center of it - offers a different view (Jensen & Blok, 2013). Illustrations of robots and androids have been strikingly different between East and West, the Asian versions often being characterized to have minds and emotion with friendly relations with humans. While Western thinking predominantly assumes master-slave relations with robots and warns to be fearful of the relationship reversing, Eastern thought readily accept machines as peers. Perhaps we can all be happier that way. In a more practical sense, we may be able to readily delegate the driving of automobiles to machines.

This paper, coming from a Japanese university that is firmly rooted in the Western style liberal democratic camp, is also located in Asia. In Asia today China is proudly advancing the superiority of Chinese Civilization, founded on Confucian and Marxist traditions, over its Western equivalent. And seeing their almost miraculous advances in the digital technologies, we cannot but wonder if the Japanese leaders of the 19th century made a mistake by embracing Western individualistic civilization (Chang, 2018). Thus, a central question of this paper is whether data governance can be better implemented under the norms of the Western individualistic ethos or under those of the Eastern traditional altruistic ethos. Perhaps the Eastern virtue may better serve data governance than individualistic ethos of guarding individual ownership. It is notable in this regard that the Chinese leader Mr. Xi Jingpin is explicitly alluding to the superiority of Confucianism in governing the future world (Economy, 2018).

To provide some background to the significance of this, we need to go back a little to understand tensions that exist in Asia. The British victory of 1840-1842 in the Opium War against China (Qing Dynasty) and its subsequent colonization of Hong Kong sent a shockwave through the entire Far East, triggering controversies on how to deal with the arrival of Western civilization now equipped with the military and economic might that had materialized following the Industrial Revolution. Japan was the first to adopt Western civilization, rather than reject it.

But Japan soon found out that this adoption was not simply about accepting modern technology but also about questioning firmly embedded social norms. Yukichi Fukuzawa, one of the leaders of Japanese modernization that lived to experience the transition to modernity, regarded Confucianism, which emphasizes authority and compassion over scientific evidence, as a primary obstacle to modernization (Fukuzawa, 1875). While the influence of Confucianism firmly remained, however, European legal systems founded on European individualism were introduced to Japan, along with democratic systems and market oriented economic orders, in the later 19th century. With democratic governance rule marked by the foundation of the Diet in 1890, the prior introduction of the intellectual property system in 1885, the establishment of the first joint stock company (based on German commercial law) in 1890 and other institutions imported from the West, Japan grew as an industrial nation. Importation of scientific methodologies helped to accelerate the progress.

Introduction of individualism included the notion of privacy protection, which was absent in the traditional Japanese norms of society. The first explicit court ruling on privacy

appeared in 1961 in Japan in the context of preventing disclosure of private life in the printed press.

Another important feature of the industrial society has been the emphasis on private ownership of property. In contrast to traditional agricultural societies, the industrial mass production of goods required a larger market and the recognition of the exclusive right of disposal to sell them to the anonymous mass. Thus, property rights had become a cornerstone of modern societies, both eastern and western. The history of modernization has been one of packaging even intangibles such as knowledge into objects associated with ownership rights that can be traded in the market as "intellectual property." It would be fair to say that such a market orientation invigorated intellectual output. In today's context, there are strong arguments against considering data as a public good as it actually deters investment in intellectual production (Taylor, 2016).

The strategy of adopting Western governance philosophy based on individualism along with technology served Japan well in bringing it industrial success. By 1905, Japan was capable not only in the use, but also in the development of Western style weaponry to defeat the Russian Navy. Even after her own defeat in the Second World War, Japan kept on modernizing to become an industrial powerhouse.

That success formula, however, does not seem to be working as well in the digital age. Other Asian countries soon caught up and took over to lead Japan in many areas of the digital industry that were increasingly becoming software driven. As Negroponte (Negroponte, 1995) summarized succinctly "being digital" required a completely different mindset.

Second question: How the economics of the digital age alter the role of individualism

There seem to be three factors that are making the digital economy distinct from the industrial economy to the extent that their foundational viewpoints should be reviewed. One is network externalities (Katz & Shapiro, 1985; Schilling, 2002; Shapiro & Varian, 1999). Another is the very low (effectively negligible) marginal cost of digital products and services (Rifkin, 2014). Third is the rapid advance in traceability using sensor and wireless technologies. All of these characteristics of digital goods favor a shared use of goods managed by access control mechanisms (Rifkin, 2000), rather than by exclusive ownership driving exchange in the market.

Network externalities

Let us start with network externalities. We define network externalities in this paper as the tendency of goods and services used by networked individuals – especially those that help them interact – to become more attractive as others adopt them.

An illustrative example of a network externality can be demonstrated by the value of a telephone network. If the value of a communications network is evaluated by the potential number of users that it may connect, then the value of the network with only one user is nil. But as the number of users increases, the number of connections increase not proportionally, but exponentially. Thus the value of the network increases exponentially. A similar network effect can be seen on a much larger scale in the social media, which connect numerous combinations of users.

Being mindful of the danger of an overly simplistic analogy, we note that similar conclusions apply to exchanges of data. This reflects the recognition that data has value (meaning) only in contexts, such as in a network of data within a certain structure and in connection with yet other data. While an isolated datum does not generate much value, a collection of data exhibiting certain patterns does. Partial data collection may be useful, but far less than comprehensive and complete data sets. The whole is clearly greater than the sum of its parts.

Network externality of data implies that data can create greater value by being assembled. If assembled by private corporations or centralized government, these institutions can enjoy monopoly power derived from the value created by the network. Given the nature of the network, governance of data becomes a critical issue for society.

Negligible marginal cost

The second feature that distinguishes the digital economy from the industrial economy is its low marginal cost. The cost of copying digital files on computers is so very low as to be mostly negligible. To be precise such low marginal cost may be somewhat fictitious as a larger number of copies require larger storage space. Nevertheless, it remains true that for most digital products the marginal cost of supplying an additional copy is negligible in proportion to the development cost of the first copy. Similar observations can be made for many digital services in the presence of very low internet connection charges in that the cost of additional service transaction is negligible in proportion to the original cost of developing software for these services.

Negligible marginal cost is significant in the context of this paper as the market tends to push the price to zero, as microeconomic pricing theories teach us. This is nothing new considering that a large proportion of radio programs have been offered for free, funded by advertisements. The value of advertisement increases with the number of listeners, and the fixed cost of transmitting radio remains the same regardless of the number of listeners within the area covered

by the facility. It follows that radio stations had incentives to offer attractive programs free of charge to listeners to attract large numbers of listeners to the advertisements.

The same logic is present in a large number of services provided on the internet, where an increasing variety of services is offered for free to attract users. We should note that the advertisement engine has been enhanced with the appearance of target marketing. By combining "big" data coming from a large number of users, and "deep" data coming from monitoring individual activities, large platform providers are now capable of delivering highly effective customized advertisements that are based on sophisticated market surveys as well as the analysis of individual consumer preferences.

Traceability and removal of the "anonymity assumption"

Traceability in this paper is defined as (a) the ability of sellers of a product to monitor the location of any good they sell and (b) the ability of buyers to determine who the original sellers are and how the product reached its destination. While this notion had been in use primarily in supply chain safety management, particularly in foods (Regattieri, A., et al., 2007), the author believes it has broad implications that extend to a much broader social context (Györke, 2016).

When defined this way, we quickly recognize that the modern industrial market economy is characterized by the lack of traceability. Producers of most consumer goods do not know who purchased their product and where. Consumers often purchase produce without knowledge of who the original farmers of it are. This is in sharp contrast to the agricultural traditions in regional societies where producers and consumers are often acquaintances.

Proliferation of such anonymous trading was inevitable in the modern industrial economy, as the products of large-scale production facilities powered by fossil fuel power generators had to be sold in large markets. Chandler (Chandler, 1977) pointed out the critical role of railroads and the telegraph in making such large-scale production and distribution possible in the 19th century and illustrated how management of such large systems gave rise to the modern corporations. The telegraph, however, was powerful enough to trace the products as far as destination railroad stations, but not beyond. Much of the consumer goods subsequently went to the emerging supermarkets where they were sold to the anonymous mass. Notably, a distinct characteristic of supermarkets was to limit the transactions to cash purchase only. Any stranger could come in, pay cash and walk away. In fact, they did not have to speak a word. It must be added that such "anonymity assumption" was a symbol of openness and freedom in liberal democratic societies. Anonymous,

cash-based transactions can be conducted regardless of ethnicity, class or gender.

As such, many mechanisms and institutions are geared to make the anonymous economy workable. The notion of property right, which is usually perceived as the exclusive right to dispose of a good, as well as the market mechanism that allows exchange of property rights using currencies that are backed by the nation state, have both been the pillars of society, guaranteeing that anonymous transactions can be implemented safely. Such mechanisms were essential in increasingly mobile societies with modern transportation systems. Modern marketing tools such as branding and broadcast commercials can be perceived as means to fill the trust gap that was created by mass producers and the unidentifiable mass consumers.

Today's information technologies, most notably sensors, automatic identification systems, and wireless communication systems are drastically changing the traceability of goods in the supply chains of almost all industrial sectors. The Internet of things (IoT) now affords the tracking of most goods at a very low cost. Delivery of digital contents through cloud services allows the providers of contents to monitor exactly which user is accessing what content at any given time.

Traceability eliminates the anonymity of individuals in modern industrial society. Considering that the absence of traceability very much encouraged the emergence of the market economy, we can appreciate how the shape of the current economy is changing in a major way. It is no longer necessary to exchange property "ownership" of goods with each transaction.

We actually observe such a phenomenon in the form of the "sharing economy." From music to houses and automobiles, various range of goods are now being offered not by exchanging physical objects with money, but as services, sometimes on a subscription basis, and at other times through temporary rental arrangements. Few of them are offered under membership contracts anonymously; someone needs enough information about both parties to create a degree of trust between them, at least for the duration of their transaction. These business models would not have been possible without today's IoT technologies.

Third question: How the issues raised in the first two questions affect the emergence of cyber civilization and its governance

As reviewed, the three distinct characteristics of the digital economy, i.e., network externality, low marginal cost and high traceability, all change the fundamentals of the modern market economy. Network externalities increase the benefits

of sharing. Low marginal cost reduces the need for the market economy where individuals and firms coordinate the supply of goods using the invisible hand (price mechanism). Heightened traceability expands the domain of businesses that adopt business models other than the exchange of ownership.

In addition, the market economy governance systems that assume autonomous individuals making decisions and taking responsibility for them is also being questioned as big data-based artificial intelligence challenge the monopoly of intelligence by human beings. The change is substantial enough to say that we are about to depart from the age of industrial civilization into the age of cyber civilization. We must think about the governance of the data economy in the context of such a new civilization.

Civilizations: Wealth, technology and governance

The term "civilization" is neither precise nor clear, in the sense that the definition varies depending on the phenomenon the writers are interested in. Some may focus on the geographical location of a given civilization, such as the Nile or Indus Civilizations. Others may deal with a predominant religion such as in the Islamic Civilization. Yet others, as we do in this this paper, consider predominant technological and economic similarities such as in agricultural and industrial civilizations.

For the purpose of this paper, the author defines civilizations as patterns of society consisting of (1) primary technology used to create wealth, (2) primary wealth that the people in the civilization seek to accumulate, and (3) governing institutions that realize an orderly creation of wealth and its distribution. Let us look at two civilizations preceding cyber civilization using this model.

The use of bronze farming tools from nearly 5000 years ago is usually considered to be the primary factor that gave rise to the earliest kingdoms and cities in Mesopotamia and Egypt. The use of iron started about 2500 years ago and quickly spread to wider areas eventually giving rise to many city states. Stockpiling of food stuff, which allowed kings to feed their soldiers, clearly was the symbol of wealth at that time. Both in the production of food (agriculture) and in the protection of stored food, hierarchical stratification in society became necessary. Armies were organized to occupy more land so that kingdoms could become more powerful. In summary, for agricultural societies, metal was the key technology while food constituted their primary wealth and kingdoms the central governing entities.

The key technology for the industrial civilization was the use of fossil fuel energy. James Watt's improvements on the steam engines that were formerly commercialized by Thomas Newcomen greatly improved the efficiency of the technology and brought about a major revolution in the productivity of manufacturing. Steam engines also freed the location of production from power sources such as the water mills that had to be located near rivers.

We have already discussed that large scale production made possible by the Industrial Revolution could only be put into effect with large area distribution. The result was the creation of the anonymous economy. Here we would like to point out that it was the application of the steam engine to transportation that enabled such wide area distribution. Also relying on fossil fuel power, the invention of internal combustion engines pushed the trend even further.

In the anonymous industrial economy, the dominant form of economic activity became that of exchanging exclusive ownership of property in the market. And money, backed by the enforcement power of the nation states, became the dominant medium to both enable transactions and store wealth. Institutions such as intellectual property right systems, civil and commercial laws, fair trade rules and banking systems were developed to ensure the stable operation of the market. Thus, money constituted primary wealth and the market mechanism expressed the central governance structure.

Technology and wealth in the cyber civilization

What then, will be the core technology and the primary form of wealth and governance structure of the cyber civilization? As for the technology, it seems clear that digital technology is at the core. Representation of all information in digital (discrete number) format has been allowing us to leverage on the rapid advances in the capacity of integrated circuits, known to follow Moore's law.

An important question for our consideration here is what wealth might constitute for the cyber civilization. A hasty answer to that might be data. With the advances in cloud computing and in the information processing power of artificial intelligence, accumulation of data has given the major providers of information platforms enormous marketing powers in the West. In the East, governments that have privileged access to most information are able to control their societies at an unprecedented level.

While admitting such an emphasis on data, this paper proposes that "trust" should be considered as the primary wealth of the cyber civilization (Gefen, Bombast & Pavlou, 2008). There are three reasons for this view. The first reason is that in the face of strong resentment of the misuse of data, we should anticipate that only trusted parties will have access to, and be allowed to accumulate data. The second is that in a world in which materialistic needs are filled by the labor of machines, people may seek non-materialistic rewards such as honor and trust. The third reason is the cybersecurity concern which will exclude networks with low levels of trust. All three combined, the accumulation of trust as an asset, will become the basis for sustained prosperity in the cyber civilization.

Other candidates exist for wealth in the cyber civilization. Algorithms embedded in the social structure, for example, may become decisive differentiators in the performance of societies. Thus, societies that are better equipped with such algorithms would be considered wealthier. If these algorithms are owned by individuals in the form of intellectual property rights, they would represent their personal wealth.

Governance in the cyber civilization

We recognized that the cyber civilization will be working under very different technological and economic conditions. As already discussed, there are reasons to believe that the market-based governance mechanism of the industrial economy will have to evolve to address the new economic and technological realities. But then, what will it look like?

We believe that initial signs of the future are already exhibiting themselves in the forms of the "sharing economy" in which "access rights" to the utility of the goods are "licensed" (McKee, 2018) among "trusted members" in electronic communities (Geiger, 2017). This is in contrast to the traditional industrial market economy format in which property ownership (i.e., the exclusive right of disposal) is exchanged for money as the medium that allows anonymous transactions. One form of such sharing models is subscription. Subscription services include such things as the music experience, something that was traditionally distributed and delivered in the form of hardware. Such formats of trade did exist even during the industrial market economy days, but were limited to high priced goods that could cover the high cost of managing regular payments. With dramatic improvement in traceability we now see the expansion of sharing/subscription services in many domains of the economy.

In such communal economies, building of trust will become an essential factor to be included. We can see this in the rise of "crowd funding," which donates and invests resources in support of worthwhile activities. Current movements for ESG (environmental, social and governance) disclosure schemes can be perceived as institutional efforts at channeling resources to socially trustworthy corporations.

Responsibility in the cyber civilization

In order to actually make communal governance based on "trust" work, there are a few specific concepts that we need to establish. Let us walk through some of them. The first is responsibility. A pillar of the Western industrial civilization has been the notion of autonomous individuals making decisions and taking responsibility for their activities.

That notion is being challenged by the realities of big (collective) data being fed into analytical systems such as AI to make decisions that are at times incomprehensible to human beings. When the liability of mistakes made by machines could be attributed to specific software algorithms and or hardware, it was relatively easy to charge individual(s) for the consequences. However, that relation is becoming increasingly unpractical as data collected from diverse sources is being fed into artificial intelligence to develop judgement criteria.

A popular thought experiment around the responsibility question is who to blame for accidents caused by autonomously driven cars. Some want to keep drivers (passengers) liable, others want manufacturers to be responsible, while yet a third camp wants to recognize persona in machines and hold it liable. A variant of the third would like to consider AI-based accidents as a form of natural disasters.

An extension of such a debate centers on whether or not to allow AI-assisted weaponry to make decisions to attack humans. While machines can be expected to make fewer mistakes than humans, they may have to be disqualified for lack of "flesh and blood" (Erskine, 2018). The moral here is the need for reciprocal vulnerability in making lethal decision. The argument is that machines that lack the fear of death should not be allowed to make the decision to pull the trigger in deadly attacks.

Data ownership

Another hotspot of debate is the ownership of data. Under strong network externality, there is a clear benefit in social data sharing. That would be particularly true for a thing such as health data, the sharing of which is expected to advance medicine greatly. Yet such sharing is deterred by at least two considerations. One is the privacy concern and the thought that personal data belongs to the individual and should be strictly under self-control.

Another point is similar but economically based. Institutional efforts in the industrial economies have been making working towards applying the notion of property right to larger portions of human activities. And intellectual property, including copyright, has been a symbol of how such a traditionally "common good" as knowledge was packaged and put into the market mechanism. Data, to be exact, is often not considered property, but entire databases certainly have been, and unauthorized access and use of data contained in them have been made illegal.

How to balance societal benefits and individual rights is likely to remain a perplexing issue, at least as long as we maintain the basic notion that personal data should be a property belonging to individuals. An alternative philosophy that honors individual dignity while also recognizing public data sharing appears to be required.

Asian perspectives on the questions raised above

It would be foolish for a scholar of business but an amateur in philosophy to attempt to summarize the depth of Christian faith in just a few paragraphs. Such faith has a long

history and many facets. So the reader should be warned that this section represents a similarly reckless attempt in Asian faiths by a scholar who thinks about data governance from a business perspective. Nevertheless, the author strongly believes such an attempt contributes to deepening our thinking in coming up with adequate governance in the global data-driven economy.

Confucianism

Confucianism is a complicated accumulation of wisdoms sometimes in conflict with each other. As such it is not an easy task to summarize its teaching. Having noted that, a pillar of its teaching can be seen in its emphasis on humaneness and loyalty in interpersonal relationships with highest priority given to loyalty to the family and friends (even against societal interests). Symbolically, loyalty to parents is placed above loyalty to the society. Betrayal of such trust is considered the most sinful act. The second highest priority are the "old friends" that have remained mutually loyal over time. Here we should note that "friends" generally means "friends of the family" whose relationships have lasted generations. Among family and friends such norms as humanity, justice, manners, wisdom and integrity are to be upheld.

Confucianism has evolved in the modern context. In the Chinese state it is symbolically translated as "state family" to which subjects of the family should be loyal. We might add here the affinity of Marxism with Confucianism. When we recognize state as a family the Marxist notion of ownership of means of production belonging to the family (state) become a natural fit. In the context of this paper, data that have now become means of production, should belong to the family.

One might argue that the traditional Confucian emphasis on the strength of mutual relationships was one of the reasons that the East Asian societies were slow to adapt to the modern Western-style market mechanism that had to assume transactions among strangers. As Graeber (Graeber, 2011) insightfully noted, a transaction based on exchanges was "for strangers." One can also recognize how governance through loyalty and relationships was not seen compatible with the rule of law. It is also arguable that Confucian emphasis on authority, even in the scholarly domain, was one of the reasons why Asia was slow to adapt to the "(positivist) scientific" methodologies that believe only in evidence and in continual search for flaws in existing theories.

Having made such an analysis, the reemergence of Confucianism in the data society can be interpreted as part of the return of traceability in society. Along with the removal of the anonymity assumption, the merits of principles that governed private ownership of means of production and the market mechanism may be declining. Instead, norms of family, albeit much larger and connected by electronic means, may be more effective, if not better, in managing the collective data of the family. A benevolent leader would protect all family members while exercising the power to monitor them. We might add that the Chinese tradition is to have the benevolent leader thrown out when "heaven" decides the leader to have lost the virtue of benevolence.

The altruistic tradition of Buddhism

Buddhism, based on awareness of causes and consequences, emphasizes the importance of benevolence toward others, which promises one's rebirth into a better life. It also warns humans against the limitless desire for ownership and preaches detachment from selfish desires.

Hongladarom (Hongladarom, 2020) proposes that perhaps such a Buddhist tradition of altruism may be better suited for the governance of today's information technology than the Western philosophy of protecting individual rights. The Buddhist line of thinking would encourage people to provide their data for the benefit of others. Accordingly, data governance will emphasize the provision of appropriate rewards to individuals who voluntarily offer their personal data to society.

Many denominations of Buddhists also emphasize exchange of benevolence not between individuals but between the individual and society. Here, society includes total strangers, a point in which Buddhism differs sharply with Confucianism. This, combined with the inclination to look down on (the desire for) ownership, leads to encouragement of giving up whatever you possess for society.

One might note that such a Buddhist approach comes down to an exchange between "individuals and society," instead of being an "exchange between an individual another individual." We can envision a world in which each individual contributing to society is being rewarded by it. This contrasts with the vision in which individual pursuit of one's own good through exchanges with others ultimately realizes the collective happiness of society.

Figure 1 is the author's attempt at visualizing such altruistic notions in the design of the traceable data driven economy. Each member of society with a good useful to other members offers it when not using it. Such contributions are monitored and rewarded by society. The author would like to characterize this economy as the "potluck economy" (Nash, 2016). The readers are reminded that this model includes the shared use of physical goods in addition to data. This reflects the author's observation that enhanced traceability of physical goods, people, monetary transactions and information is reducing the need for total ownership transfer in favor of adopting license granting

Fig. 1 From exchanged economy to Potluck economy

Exhibit 1: From Exchange Economy to Potluck Economy
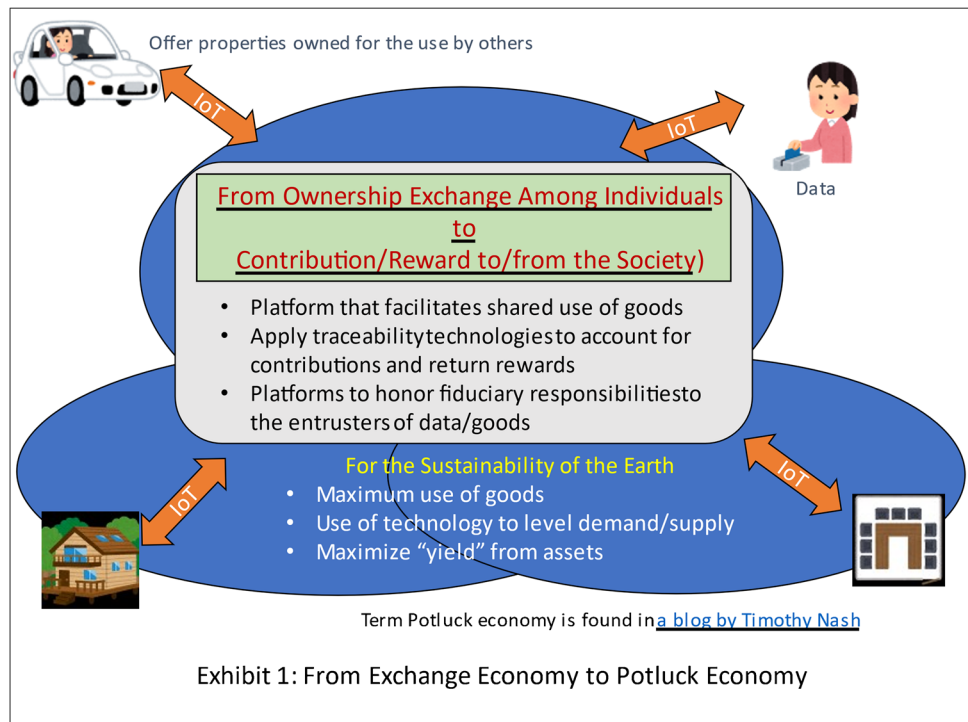
business models such as subscription models and sharing models. The author also notes that the notion of ownership remains intact in this model. The potluck model in that sense is a fusion of the Western and Buddhist models. The model assumes that contributions of goods/data owned by individuals are made available for others to use voluntarily but only on those occasions where the owners' interests are protected. Platforms that coordinate such use should have fiduciary responsibilities to protect the interests of the entrusters of the assets Table 1.

Animism: Humans as a part (vs. the top) of nature

Jensen & Blok (Jensen & Blok, 2013) point at the strong influence of animism in how the Japanese perceive and manage technologies. While its influence may not be as great in northeast Asia, animism is a prevalent philosophy in the Pacific Oceanic area that Japan is part of.

Table 1 Key aspects of civilizations

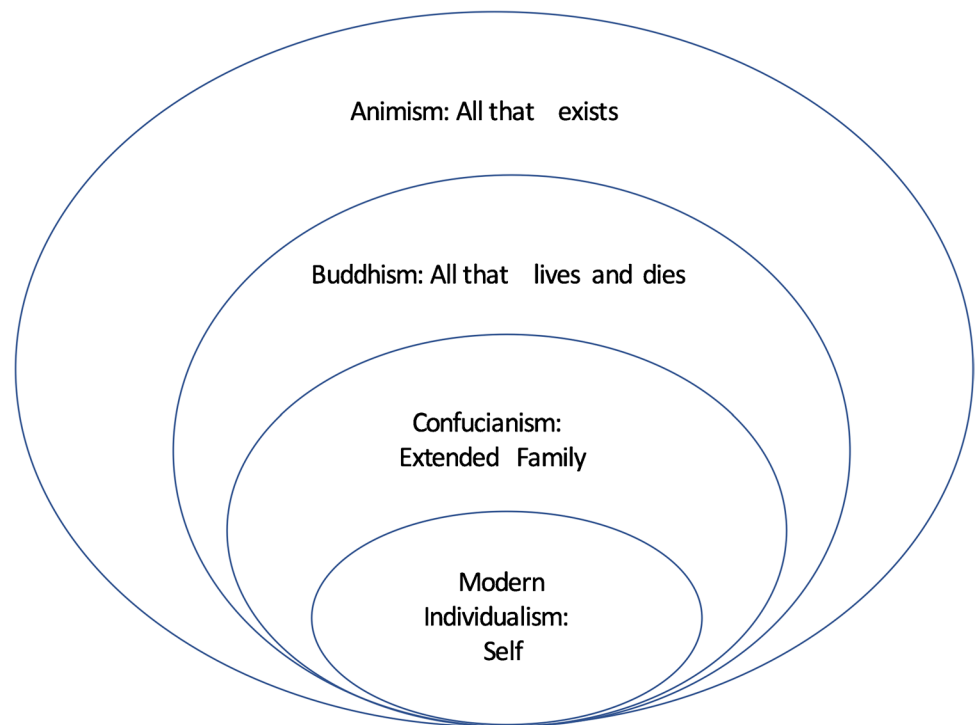| Civilization	Technology	Wealth	Governing Entities
Agricultural	Metal (farming tool)	Food stock	Kingdoms
Industrial	Energy	Money	Market
Cyber	Digital	Data? Trust? Algorithms?	Communal?

Animism characteristically recognizes the presence of spirits in almost everything, including non-living things like stones and mountains. In addition, animism considers humans not at the center or at the top of nature, but merely a part of it. These two elements combined, the Japanese have been quite receptive to the idea of non-humans/non-living objects having a mind and persona. Many Japanese manga and animations portray machines as equal to humans and as subjects for friendship.

As a result of such a tradition, Asia does not share the Western reluctance to accept machines having a mind. It also lacks the fear of machines taking over the master's position in the world as it has not been considering humans to be the master of it to begin with. Naturally, humans have the desire to be the fittest in the ecosystem and be in the predatory position but are also ready to accept being humbled by other creatures of nature Figs. 2 and 3.

Alternative principles: Governance through respect for others

Confucianism, Buddhism and animism are three separate and distinct beliefs, so to attempt a generalization might be risky. Nevertheless, some commonalities are observable with implications for practical policies. Let us review two of them in the context of digital policies, one surrounding trust and the other responsibility.

First is the emphasis on honoring the trust placed on you by others. This can be contrasted to the emphasis on

Fig. 2 Scope of loyalty

Animism: All that exists

Buddhism: All that lives and dies

Confucianism:
Extended Family

Modern
Individualism:
Self

Exhibit 2: Scope of Loyalty

Fig. 3 Gojo Rock on Top of Mt. Kinpu is worshipped as a shrine to spiritual energy (Photograph by NISH/PIXTA)

protecting the rights of individuals. Let us take the example of privacy. The modern Western thinking considers a privacy breach as the violation of the rights of individuals that have ownership of given property. The East, on the other hand, would consider the misuse of personal data entrusted to the platforms to be wrong for the betrayal of trust placed on the platform. While the two attitudes seem only subtly different, it is actually significant because of practical implications in the design of data infrastructure. While the Western emphasis is to ensure the collection and management of data complies with the "will" of the individuals supplying it so that they remain in control of it, the Eastern emphasis is on ensuring that data is protected and used in ways loyal to the "interest" of the entrustees regardless of their intended or unintended permission to collect and manage it.

The same thread of thought can be applied to the ongoing debate on what grounds the "platform giants" should be regulated. Consensus seems close that some regulations are necessary to control today's platform giants that have grown to humongous size by leveraging network externalities.

There are, however, differences in how to implement the possible regulations. One is to focus on privacy protection with the recognition that privacy is a basic human right. Self-control of personal information is emphasized. Europe, with its General Data Protection Regulation (GDPR) is the most conspicuous initiative adopting this view. The second approach is to focus on the monopolistic power exercised by the platform giants. Many lawsuits have been fought against them on this ground. This line of thought, which emphasizes the protection of small players against abuse by big players, seems to be shared between East and West. The third approach is to charge violators of fiduciary responsibilities on platforms to which users have entrusted their data. This seems to have a high degree of affinity with Asian viewpoints while also being widely accepted in the West.

Second is in the recognition of responsibility. A popular topic in the area of Artificial Intelligence (AI) governance

is whether or not it is realistic to continue to hold humans ultimately responsible for all malfunctioning of man-made objects. The Western assumption of humans as the monopolizers of autonomy and intelligence has given humans ultimate authority over man-made objects and holding them responsible for them.

This is reflected in the legal system all the way from civil and criminal law to the product liability laws of the West, albeit in various expressions. American legal systems, as an example, would sue the owner, whether the party taking reprehensible action were a defective machine, an intelligent machine, or a savage and poorly controlled dog. It would also sue the suppliers of products with flaws for their negligence. Extending such a line of thought to Artificial Intelligence, it would be natural and practical to hold owners of AI systems, as well as developers of algorithms and platform providers that supply data, accountable for the malfunctioning of AI systems.

While honoring the practicality and wisdom of this legal tradition, there are reasons to worry that we may not be able to extend it. One is because systems today are interconnected and behave as complex systems in potentially unexpected way (Meadows & Wright, 2008). Combined with machine-generated logics that are anticipated to expand, it may become increasingly difficult to hold any particular human developer accountable for the outcome.

The second reason is the diversity of data sources feeding artificially intelligent systems. Let us think of an autonomously operated system. If the data it uses solely comes from a single source, such as a major platform provider or manufacturer, it will be practical and fair to ask the platforms to assure the quality of it. While such an assumption may hold in many instances, there would be other instances that intelligent systems collect data from multiple sources, including local sensors. In this instance, too, a combination of data from heterogeneous sources may yet again construct a complex system with unpredictable outcomes.

As it stands, we should be prepared for a situation in which it becomes difficult to continue holding only humans accountable for the consequences of artifacts. In fact, we currently face the reality that issues surrounding responsibility are slowing down the deployment, at least legally, of fully autonomous vehicles, although they seem close to exceling in safety over human-operated vehicles.

There seem to be three ways of dealing with the situation. One is to think that even machines have minds of their own and therefore to recognize persona in machines. While this is an acceptable proposition in Eastern thinking, the idea is not supported in most Western cultures as it fundamentally challenges the pillars of current legal systems. The second would be to consider malfunctions as an "act of god." This is also acceptable in Eastern philosophy, although such a finding will be hard to accept even by Asians that are

victims of man-made objects. The third would be to limit the role of AI to an assisting role, leaving the final decisions to humans. The US military adopts this line of thought to leave the trigger with the human operator, while the AI controlled weaponry does most of the other tasks. Whether or not there is a "singularity" point at which general purpose artificial intelligence actually takes over the capabilities of human intelligence is not uncertain. At the same time, it almost seems inevitable that the time will come when machines will at least have intelligence-like capabilities. At such time, Asian wisdom of conviviality with nature may become a guiding principle.

Trust: In search of common ground

This paper made a deliberate attempt at contrasting the East with the West, starting with moral philosophy and exploring the implications for technological governance, social welfare, and emerging legal doctrines regulating technology. There naturally were oversimplifications in all areas. Virtues of benevolence and altruism exist in the West, while the East has been adopting the Western market mechanism aggressively and successfully.

More importantly, there need not be a clash of civilizations. It is important to emphasize this as geopolitical and ideological conflict between China and the western world seem to be deepening while the rest of Asia is agonizing which side to be on. At the very least, the difference should not be portrayed as a clash between good and evil by either side. Much of the conflict seems to originate from a lack of understanding about the fundamental philosophies of the two cultures, both of which are decent once you understand them. And there are common grounds. Both East and West share the tradition of honoring the dignity of others.

A common thread that can potentially bridge the two sides is the notion of honoring trust. The West certainly does have the notion of fiduciary responsibility while the East emphasizes loyalty and kindness to family or even to total strangers. By leveraging these common virtues, we may be able to bring to bear one side's unique ideas on those of the other side. In a more practical sense, this can be taken as advice to the West to pressure China to be more altruistic and benevolent to its own people, rather than to accuse them of not adopting the distinctly Western thoughts of human rights. The common goal of the protection of human dignity can be accomplished either way.

It is worth relativizing modern Western individualism both to prepare ourselves for future technologies as well as to avoid a serious clash between East and West.

This paper attempts to provide a novel perspective on the important topic of ethics in the digital age with the aim of stimulating further discussion and empirical research toward

the foundations of more concrete recommendations. The author is now conducting his own research by applying the framework of cross-cultural shared notions to the analyses of principles that governments are employing in regulating major technology firms. The author intends to report the result of his research in the future.

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