

The Development of Justice in Thai and Japanese Perspective:

Does Technology Change the Concept of Justice in Future, and if yes, then How?

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I. Introduction

Today, as the economic activities of robots and AI, for example, autonomous vehicles and trading robots, are becoming increasingly important, the way of controlling these activities is also carefully discussed by scholars in various fields. From the perspective of private law, we cannot ignore the following question: To whom do the assets earned by robots and AI belong? This question is linked to a number of derivative problems. For example, can the robot owner freely dispose the assets earned by his/her robot, or can he/she receive only a certain dividend like a shareholder? Should the tax office impose an income tax on the robot itself as if it had its own personhood? Furthermore, if a robot or AI made a huge loss, can its owner be exempted because the robot or AI performed its own economic activities autonomously? These issues can ultimately be

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summarised as the question of how we should distribute economic benefits and risks to members of society. The fundamental rule about such profit and risk allocation is traditionally called *justice*. This paper aims to illustrate some legal issues on the latest technology and to give guidance on the change of the concept of justice.

II. What is Justice?

1. The Classical Definition of Justice

In order to discuss the question of what justice is and what role this concept should play in modern times, it is plausible to begin with the famous characterisation of justice ‘*sum cuique tribuere*’ (in English: To give to each his/her own)¹). This definition is found in *Corpus Juris Civilis*, which Eastern Roman Emperor Justinian I (reign 527–565) issued from 529 to 534. In *Institutiones*, he elaborates: ‘The precepts of law are these: to live honestly, to injure no one, and to give to each his/her own’ (italics mine, in Latin: *Iuris praecepta sunt haec: honeste vivere, alterum non laedere, suum cuique tribuere*). Another prevailing concept of justice comes from the prestigious Roman jurist Ulpian (c. 170–223), who wrote: ‘justice is the constant and perpetual wish to render to each one his/her rights’ (italics mine, in Latin: *Iustitia est constans et perpetua voluntas ius suum cuique tribuendi*).

2. The Role of Justice in Future Society

If we view these definitions within the context of modern technology, to whom should we give his/her own? What does this final clause, ‘to each his/her own’ (in Latin: *sum cuique*), mean? This was also a question in the Roman Empire because there were slaves who were treated as objects. Slaves were not subject to justice because they did not own property; they were property. After

the emancipation of slaves, all human beings became subject to justice, and the principle of equality was born. Over the years, man extended the concept of ‘personhood’ to other entities such as monasteries, cities and corporations. A newly expansive concept of ‘judicial person’ was introduced to promote commercial activities; however, the need for human control did not disappear. A judicial person cannot act without human beings (e.g. investors, directors, staffs, etc.). We don’t yet have any corporations that perform autonomously as science fiction would have it.

In the twenty-first century, however, this principle is again being called into question. The first blow, if I may say so, to the anthropocentrism of the concept was dealt in the field of robotics. Please imagine the following situation: A plant manager, Luke, wants to replace Ken, a human labourer, with Nexus, ‘a robot that can operate the harvester longer, more safely, in any weather, and without lunch breaks, holidays or sick pay’²⁾. In this case, ‘Bill Gates thinks that, to ease the inequality and offset the social costs implied by automation’s displacement effects, either *Nexus should pay income tax*, or Luke should pay a hefty tax for replacing Ken with a robot. And this “robot tax” should be used to finance something like a universal basic income’ (italics mine)³⁾. Elon Musk (1971–), the CEO of Tesla; Stephen Hawking (1942–2018), erstwhile director of research at the Centre for Theoretical Cosmology at the University of Cambridge, and other leaders of the industrial and scientific communities also postulated a new taxation on robots.

In contrast, the EU Commission recently has made political arguments against this idea of a robot tax. On 2 June 2017, ‘Andrus Ansip, the European Commissioner in charge of the Digital Single Market, said that he did not support Bill Gates’ idea of taxing robots that replace human workers.’⁴⁾ He argued that a robot tax might lead to an increase in the cost of vocational education and policing.

The question remains though about how jurists should react towards this very

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novel concept. A robot tax is based on the assumption that judicial personhood should be granted to robots by law because some kinds of robots may own their own property. At first glance, considering robots to be people seems plausible. Expanding the concept of 'person' is consistent, for example, with our evolving modern views on animal rights. If there is a movement to grant human rights to chimpanzees, then why not to robots? In today's courts, judicial personhood is not granted just because of the ability to communicate, speak or give expression to feelings. In fact, 'judicial persons' today cannot communicate autonomously. While the expression 'Toyota's belief' is a figure of speech, we don't think that Toyota has its own autonomous intentions outside of the individual thoughts of stockholders or members of the board of directors. Animals and robots, however, can at times be considered to be acting autonomously. The concept of judicial person should cover also something autonomous in the future. Therefore, it may be necessary to redefine the concept of what makes a judicial person to designate a robot as such and introduce a robot tax.

The autonomy of artefacts is normally interpreted as the ability of autonomous operation. For example, an unmanned ground vehicle, e.g. US Army Multifunctional Utility/Logistics and Equipment (MULE), may be regarded as autonomous when it operates without the need for a human controller. From the historical perspective, however, autonomous operation isn't a sufficient condition for the autonomy of robots and AI when these are deprived of their own property rights. This can be proved by the case that women in ancient Rome could not have their own property. In order to become a person in the true sense, an autonomous entity needs both the competence to possess a thing and to dispose of it lawfully.

3. A Comparison between Roman Slaves and Robots

Norbert Wiener and Leon Wein indicated that the role of robots would be

similar to that of slaves in the Roman Empire. With a focus on this similarity, Ugo Pagallo supposed that ‘specific property’⁵⁾ (in Latin: *peculium*) might be granted to robots in much the same way as it was to Roman slaves; however, for this comparison to be useful, clarification is required as to how the concept of *peculium* in Roman law can be applied to robots. I argue that this can be done in two practical ways. First, the original purpose of *peculium* wasn’t to provide the owner with monetary gain; it was to enable slaves to earn their own living. Therefore, I argue that this same purpose should be retained in the case of robots—any digital-specific property should be used preferentially to ensure their own safety and stability. It seems unacceptable that an owner would program his/her robot to use its digital-specific property only for raking in money without tending to its own malfunctions and effecting repairs. Second, Roman law limited the liability of an owner for his/her slave’s social activities to the monetary worth of *peculium*. If we apply the same limitation to robots, a robot registration system should be introduced for public notification.

III. How Can AI Contribute to Justice?

1. Optimization and Biases

As we strive to re-examine ancient concepts of justice in the age of AI, the second question concerns how we interpret the key word ‘*tribuere*’ (in English: to give) in this modern context. The social welfare that we receive from our states, e.g. national pension, is decided through political procedure. However, what would happen if AI was able to calculate the efficiency of social welfare more correctly than politicians? In the light of modern technological development, this assumption is not laughable. We regularly allow computers to take charge of parts of governance. We use calculators rather than calculating numbers in our own heads; we no longer try to memorise the names, phone numbers and

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addresses of friends but instead record these in computer devices. So why do we hesitate to entrust computers with the determination of the fundamental political principles of a future government even though we rely upon them even now in various ways?

Some scholars believe that value judgement could be made only by human beings and that AI cannot be a replacement for them in this field. A reason for this limitation is that political AI needs a willing human trainer to reconsider an existing value judgement⁶⁾. For illustration purposes, let's imagine a CEO who discriminated against women employees entrusted AI with personnel affairs. The AI would learn the past tendency of the CEO's employment policy from the biased data that the personnel department had collected and then incorrectly judge that women employees should not be promoted even if they could achieve great success. Justice cannot always be determined by data patterns alone; ideals (in German: Ideale) of what effects a truly equitable form of justice must also be injected.

2. AI as Policymaker

As its uses expand and become more targeted, technology has become an increasingly effective tool in policymaking. Michela Milano, Barry O'Sullivan and Marco Gavanelli 'have identified a number of techniques that can be effectively used to create support tools for policy makers.'⁷⁾ In energy policy, for example, AI can be a very powerful tool. Policymaking that primarily consists of data collection and computing can help humans judge the most efficient way of reducing costs better than they could without help. Milano and her colleagues found that AI improved upon the plan manually produced by the region's experts. 'Although the plan devised by the experts is close to the [Pareto] frontier, it can be improved', they concluded⁸⁾. Machine learning is also a valuable tool in real property valuations. As N. B. Chaphalkar and S. Sandbhor observe: 'The

current era is marked by the increase in number of factors and their complex relationships for valuation of real properties. It demands the use of high-end computing methods like AI tools for accurate and qualitative prediction.⁹⁹ Be that as it may, the question as to the degree to which the contents of justice are calculable remains unanswered.

IV. Conclusion

As we enter a new phase of technological innovation, we need reconsideration and improvement of our legal principles. In this short introduction, I picked up two topics that are germane to justice: the property rights and autonomy of robots and policymaking that utilises AI. Questions that arise as to the subject and object of justice call for the integration of human judgement and computer solutions. There are inarguably areas in which technology might be of great benefit to the realisation of social justice goals although I believe that the benefits and consequences of the general application of AI beyond just simple calculation must be carefully weighed. As technology's autonomous capacity and its uses evolve, so must the two concepts of justice and personhood.

- 1) A similar definition was suggested by Cicero (A.D. 106–A.D. 43). See W. Waldstein et al., *Juristische Kurz-Lehrbücher: Römische Rechtsgeschichte*, 11. Aufl., München : C.H.Beck, 2014, SS. 140-141.
- 2) Y. Varoufakis, 'A Tax on Robots?', (27 February 2017) <<https://www.project-syndicate.org/commentary/bill-gates-tax-on-robots-by-yanis-varoufakis-2017-02?barrier=accesspaylog>> accessed 17 August 2018
- 3) *Ibid.*
- 4) K. Samuelson, 'EU Commissioner Says No to Bill Gates' Robot Tax Idea', (2 June 2017) <<http://fortune.com/2017/06/02/andrus-ansip-bill-gates-robot-tax/>> accessed 17 August 2018

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- 5) In Roman law, slaves could have 'specific property' (in Latin: peculium) which their owners granted. Peculium enabled slaves to overcome the difficulty that they could not enter a contract with other persons. See A. Watson, *Roman Slave Law*, Baltimore and London : The John Hopkins University Press, 1987, at 91. Owners reserved their rights to the specific property; therefore, loss and gain in the value of peculium belonged to them. See Max Kaser, *Römisches Privatrecht: ein Studienbuch*, München : C.H. Beck, 1989, S. 79. Also See Takashi Izumo, 'Digital Specific Property of Robots: A Historical Suggestion from Roman Law', 1(1) *Delphi* (Lexxion 2018) 14.
- 6) A. K. Agrawal et al., *Exploring the Impact of Artificial Intelligence: Prediction versus Judgment*, NBER Working Paper No. 24626 (2018) at 17.
- 7) M. Milano et al., Sustainable Policy Making: A Strategic Challenge for Artificial Intelligence, 35(2) *AI Magazine* (2018) 22, at 33.
- 8) *Ibid.*, at 27.
- 9) N. B. Chaphalkar and S. Sandbhor, Use of Artificial Intelligence in Real Property Valuation, 5(3) *International Journal of Engineering and Technology* (2013) 2334, at 2336.