



Series: The Monsterizing Platform Power and Law—Volume IV

# *How to Engage the Monsters*

## Platforms and Social Foundations :How to Engage the Monsters

edited by Tetsu Isobe (Chief editor)

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Goro Horiguchi, and Sho Mizubayashi

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*Platforms and Social Foundations: How to Engage the Monsters*  
Series: *The Monsterizing Platform Power and Law, Volume 4*

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# PREFACE

## Foreword for the occasion of the publishing of the book series

The “order of humans” that has been taken for granted in the “modern era” is not a given. In fact, at certain times, the “order of God” was the absolute given. With the Renaissance as a turning point, humans challenged the “order of God” by considering human rationality as the ultimate authority, shedding blood repeatedly to reach the “order of humans” that gives centrality to humans and not the gods.

An important guardian of the modern order was the Leviathan, that is, the sovereign nation-state.

The violent nature of this “monster” has been governed by the constitution and is mainly used against those who disrupt the order. In this way, despite the many inherent issues, it can be said that the paradigm that we call the modern era has been maintained for hundreds of years (over 350 years if we take the Treaty of Westphalia as the starting point).

Today, however, another “monster” that competes against the Leviathan has appeared. Accelerated by the development in information technology centered on artificial intelligence (AI), Big Tech, represented by Google, Amazon, Facebook (Meta), Apple, and Microsoft (GAFAM) became a new force. Of course, other global entities have affected the Leviathan. But never, in history, has there emerged an entity that has a user base far exceeding the population of a sovereign state, that captures and manages all aspects of each user’s behaviors and thoughts through vast amounts of data to form a comprehensive infrastructure for daily life, and that effectively shapes and influences users’ behavior and thoughts by feeding individually tailored information and content. Borrowing the words of an international politics scholar, Ian Bremmer, Big Tech represents entities from “a completely different dimension” when compared to global corporations that have existed until now.

They exist in the virtual world, and they slip through physical barriers, penetrating deep into the territories of nation-states. They are starting to control not only the way nation-states exercise their power but also the way war and safety between nation-states are shaped. In this way, it seems that the Leviathan that used to have absolute power already has its hands and legs tied by this other “monster.” Due to their unparalleled geopolitical influence, Big Tech’s “heads of government” attend international meetings such as The Group of Seven (G7). They are starting to exercise substantial influence in shaping the global norms of the Leviathans (Junki Watanabe “The “G11” is in control of AI: the IT giants that walk shoulder to shoulder with the G7” *The Asahi Shimbun Digital*. June 11, 2023).

Within the sovereign-state system that emerged by suppressing other authorities of power, such as the church and lords, the Leviathan was the only existence that was allowed to be a “monster.” However, today, against the backdrop of rapidly evolving scientific technology—especially AI—a different “monster” has appeared again, one that seems to be beginning to shake up the modern legal system, which is based on the premise of the Leviathan’s hegemony.

This can be interpreted as the crisis of the “order of humans” that has been maintained by the power of the Leviathan (sovereignty=law). This is because both the existence of constitutions (that control the power of the Leviathan) and the destiny of liberal and democratic order (that we have barely been able to maintain in practice) are in the hands of this other “monster” that is different from the Leviathan. Moreover, we do not have sufficient knowledge of the theories and technologies to control it.

This series, titled “The Monsterizing Platform Power and Law,” examines the global Big Tech using the metaphor of the sea monster, Leviathan, and the two-headed land monster described in the Old Testament (Job 40-41), Behemoth. Specifically, it examines the antagonism between Leviathan’s and Behemoth’s power and ways to control them through a legal approach to try to envision the future of freedom and democracy. This examination also involves fundamental questions about the essence and legitimacy of the power held by these two “monsters,” the “law” (either as law or as algorithms and code) they generate, and the “order of humans” and the “order of algorithms.”

——Behemoth. As you know, Thomas Hobbes also challenged the Leviathan in his late life and modeled the powerful entity seeking to seize sovereignty after this aberrant “monster” (Hobbes (Translated by Sonoko Yamada). *Behemoth*. Iwanami Shoten, 2022). However, what Hobbes had in mind were the Presbyterians and Roman Catholics who revolted against the secular royalty (Charles I) in the English Civil War (1640–50s) and the Parliamentarians who supported them, which differs greatly from today’s Big Tech companies. Nevertheless, there are some similarities with Big Tech in that the Presbyterians destabilized the Leviathan by preaching to the people (Demos), manipulating their conscience toward rebellion, and provoking political division and confusion. Today’s “Behemoth” also manipulates the conscience of the people through algorithms that disseminate misinformation and defamation. I trust that Hobbes would forgive my appropriation of his metaphor of the Behemoth for the present day.

However, in contrast to Hobbes who scrupulously described the Behemoth as a dark force of civil unrest that must be suppressed by the Leviathan, this course will take a more flexible position regarding Behemoth’s role. Even amid the rapid rise of information technology, the European Union (EU) is indeed trying to control the Behemoth’s force through legislation, such as the General Data Protection Regulation (GDPR) and the Digital Services Act (DSA), based on the belief that sovereignty should remain with the “nation-state,” established by the consent of the people. However, this is because there is some degree of trust in the “nation-state.” In Asian countries under military rule, the Behemoth may rather seem to be the flagbearer of freedom and democracy. In the modern sovereign-state system, where the Leviathan has absolute power over its territory, it is not possible to conceive of a higher-level power entity—that mediates disputes between the Leviathans. The system is inconvenient for tackling global issues and cannot ultimately prevent wars since the “state of nature” remains default condition on the international plane. If we emphasize the limitations of the modern sovereign-state system in this way, the idea of placing certain expectations on Big Tech as global power entities that transcend nation-states also becomes plausible. Thus, this book series does not impose on the authors the Hobbesian conclusion that the Leviathan wins over the Behemoth.

In this way, this book series embraces all considerations about “Leviathan vs. Behemoth” but assumes the following shared perceptions. The modern “order of humans” is being shaken by the Behemoth and its means of dominance —namely, AI and algorithms—and we can no longer simply focus on the power and law of the



Leviathan. We must pay intellectual attention to the antagonistic relationship between the two power entities while keeping an eye on the Behemoth and its “law” (algorithms or codes). It is a bold proposal from the perspective of the traditional modern philosophy of law, but it seems that the day will surely come when its significance will be historically proven.

Each volume explores the tensions and collaboration between the Leviathan and the Behemoth, as well as the embedded challenges and ideals. Volume 1, *Platforms and States: How to Settle the Battle of Monsters* (edited by Tatsuhiko Yamamoto as chief editor, Pauline Türk and Haluna Kawashima), examines the ideal relationship between the Leviathan and the Behemoth by comparing each country and region’s response to the increasing significance of the Behemoth’s power, such as the EU’s “digital sovereignty.” In Volume 2, *Platforms and Power: How to Tame the Monsters* (edited by Sotaro Ishizuka), analyses theories for controlling the power of Big Tech and practical approaches from the perspective of constitutional law and competition law. In Volume 3, *Platforms and Democracy: The Future of Another Monster ‘Demos’* (edited by Keigo Komamura), the transformation of “the people (Demos)” brought by the rise of Big Tech is examined logically, and the future of democracy is discussed. Volume 4, *Platforms and Social Foundations: How to Engage the Monsters* (edited by Tetsu Isobe as the chief editor, Haluna Kawashima, Yojiro Shibata, Goro Horiguchi, and Sho Mizubayashi), examines how labor, education, and healthcare policies, which have traditionally been the responsibility of the nation-state, are being reshaped as Big Tech increasingly function as social infrastructure.

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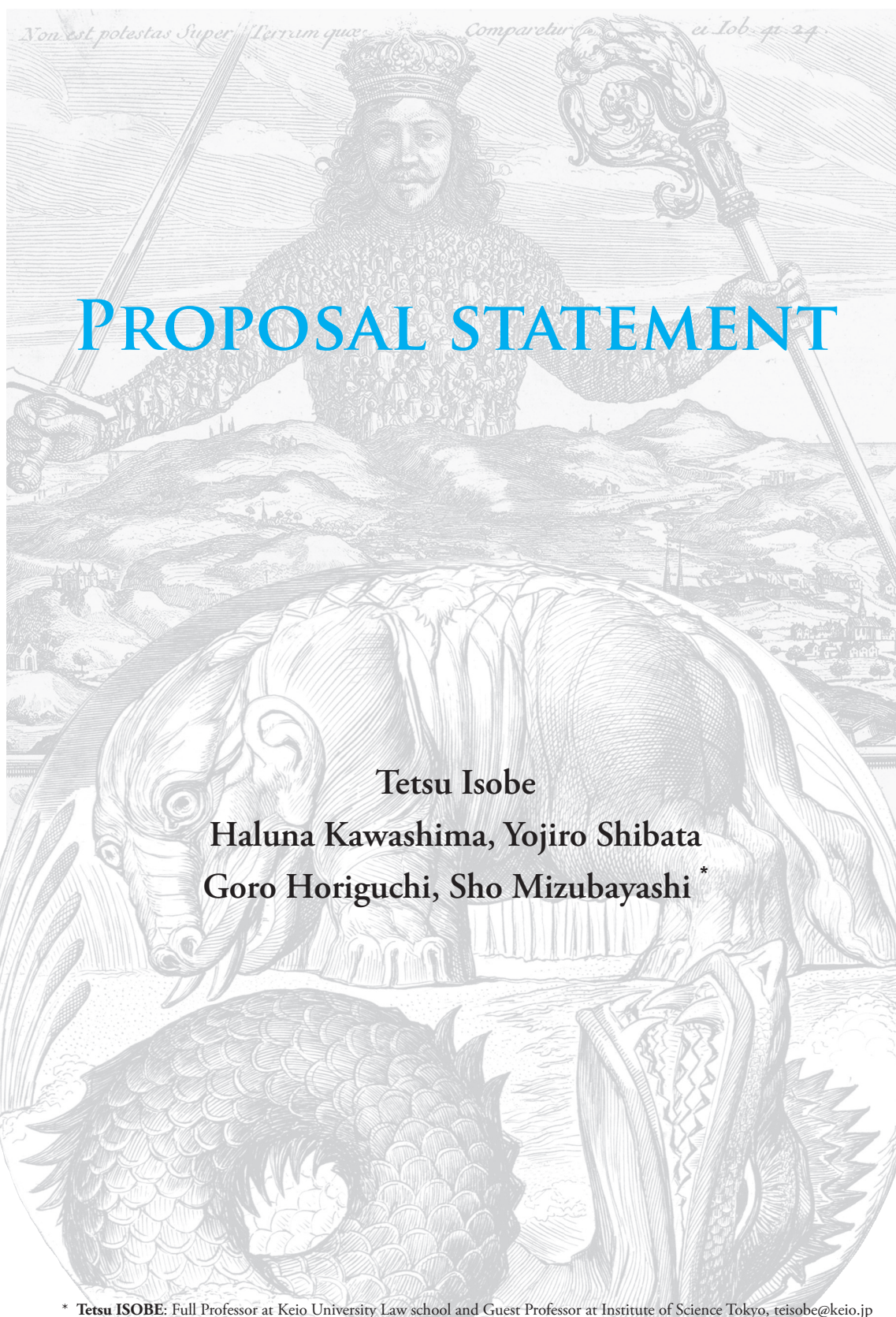
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# PROPOSAL STATEMENT

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## Preface

In modern society, we have entrusted Leviathans (states) with power, establishing the wedge of constitutions to prevent them from running amok while building a system to safeguard our lives, freedom, and safety. However, as we enter an era where people's lives cannot function without digital technology and the digital realm, the influence of new monsters, Behemoths (Digital platforms. Here after "DPFs"), has become significant and cannot be ignored. This book, along with the series to which it belongs, ambitiously explores how societies in the present and future will or should transform in the struggle between the two monsters—the Leviathans and the Behemoth.

Clearly, regarding themes such as freedom, power, and democracy, which are addressed in other volumes of this series, the two monsters are primarily viewed as adversaries, with a showdown between them resembling an extensive monster war. However, this book adopts a slightly different approach, focusing on several social foundations. The proposals below are divided into sections on health, education, and labor. For instance, a patient suffering from a rare disease may access information regarding treatments approved overseas using a DPF, and social media is indispensable for disseminating the latest information on vaccines and treatments during pandemics. Some workers find daily employment through Uber, and in the field of education, tablets are useful for supporting students who cannot physically attend school. Therefore, rather than simply considering the arrival of the Behemoths as a source of major conflict, we can imagine them as a new ally for patients, children, and workers, aiding their health, learning, and working lives.

Evidently, in the realms of health (medical care), education, and labor, actors other than states and DPFs exist. For example, in healthcare, there are medical professionals who treat patients and pharmaceutical manufacturers; in education, teachers; and in labor, companies and unions. All have supported the social foundations in their respective fields. Within this context, it is difficult to uniformly model who exactly is the monster and who is the god. Thus, this book does not present a simple framework where the two old and new monsters dominate and clash; instead, we aim to consider from multiple perspectives and in concrete scenarios, what has been expected of the Leviathans in each domain, what type of impact the new monsters, the Behemoths, may have, and what expectations we may have for them, while also considering how to control their influence.

Readers are welcome to begin reading from any chapter—whether health (medical care), education, or labor—however, the degree of expectation and caution regarding the Behemoths varies. This variation is largely owing to the different roles that central actors, such as professionals (doctors, teachers) and intermediary organizations or institutions (medical institutions, schools, companies), have played in the past, present, and future in each domain.

For instance, in healthcare, the doctor-patient relationship, which is based on trust, differs significantly from general consumer relations, and, furthermore, considering the limits of medical science and human power in the face of life, death, and the mysteries of life, the question arises as to how information can be circulated and patients' medical decision-making is possible using DPFs. Thus, the work of the medical profession to protect patients' interests and the nature of its professional ethics must be central, for example, when

considering regulations for advertisements on DPFs. A simple consumer law approach is far from sufficient.

In the field of education, the constitution demands that schools and teachers function for the right of children to have an education. Before the arrival of DPFs, the physical space of schools was a platform. Schools occupy a large part of students' lives, not only for learning, but also for health checkups, school lunches, extracurricular activities, and evacuation drills. Although this has not fundamentally changed with the arrival of DPFs, it is expected that DPFs could assume roles such as supporting students who cannot attend school owing to truancy or those struggling with peer pressure. The Behemoths should cooperate with and complement the old platform, not replace it. Thus, the question is how to tame the Behemoths while modeling it on the responsibilities of schools and teachers. This is far removed from the image of a monster war. (This book also considers and proposes ways to prevent privacy violations for children, which is essential for the effective use of DPFs.)

Regarding labor, the relationship between employers and employees is undergoing daily changes worldwide. In ordinary businesses, employees are increasingly being transformed into freelancers, and on the surface, DPF workers appear to enjoy a free employment style, however, in reality, they are positioned as self-employed. If both ordinary businesses and DPFs abandon the traditional role of employers in the Japanese employment model, resulting in workers falling out of the social security system (health insurance, etc.), a significant portion of the responsibilities historically placed on companies to protect workers could dissolve (or at least shrink). It is time to seriously reconsider who bridges this gap and how. Ultimately, the suggestion is that, in today's world in which DPF work has appeared, we should not simply reduce the role of companies in worker protection but rather carefully consider the role companies must play in the DPF era.

By reviewing each proposal and reading the related chapters, I expect you will notice that, while the various perspectives and views of different contributors appear to intersect, there is an underlying "view of things" that runs through the entire discussion.

We expect this book inspires you to reflect on how we can maintain and enhance social foundations in the DPF era and how various actors in our society, not just the two monsters, should perform their roles.

**(Editor-in-Chief: Tetsu Isobe)**



# 1 Proposals for Improving Digital Medical Advertising Practices

## Case

Targeted advertisements for cosmetic surgery, Androgenetic Alopecia (AGA) treatments, and health supplements are being displayed on DPFs. These advertisements profile users' health characteristics and anxieties based on their behavioral history on DPFs, displaying products that psychologically appeal to them. Some advertisements employ dark patterns, tapping into behavioral psychology, probably leading some health-conscious users to feel anxious after viewing an advertisement and clicking on it to purchase the product in an attempt to alleviate their health concerns. These advertisements may lead to accessing unverified elective medical treatments, potentially resulting in damage to health or public health risks.

## Issue

Regarding medical advertising regulations, the Consumer Affairs Agency issued fewer than 10 orders for advertisement corrections in 2015, however, by 2020, this number exceeded 20. The agency is particularly cautious about advertisements that prey on users' psychological vulnerabilities, such as those claiming to cure cancer or prevent COVID-19. Recently, DPFs themselves have adopted measures to address targeted health-related advertisements. Google has independently established a medical advertising policy, using AI to remove advertisements that violate Japan's Act on Securing Quality, Efficacy and Safety of Products including Pharmaceuticals and Medical Devices (PMD Act). Several advertisements have been removed from YouTube.

Internet advertising offers the advantage of providing users with health-related information and expanding their choices. However, advertisement revenue is a primary source of income for DPFs. Advertisement clicks directly translate into revenue for them. Targeted advertising—which taps into consumer behavior psychology, using AI to analyze users' online behavior and pinpoint advertisements that are likely to interest them—is an efficient way to obtain clicks. Targeted health-related advertisements predict users' health concerns based on their behavior and show advertisements accordingly.

Traditionally, strict legal regulations have been placed on medical advertising to prevent missed opportunities for necessary care, that is, to prevent people from mistakenly believing that they do not need to seek proper medical treatment if they use the advertised product. The purpose of regulating advertisements has been to establish an environment where, regardless of their preferences, patients are provided with accurate information, ensuring they can make appropriate medical choices. However, the new method of targeted advertising appeals more directly to users' psychology, the more a user relies on a DPF, the more they are inundated with similar advertisements, potentially making such ads more confusing than those on television or in magazines. Consequently, targeted medical advertisements may obstruct appropriate medical choices and even induce negative health outcomes.

Thus, the issue of medical advertisements displayed on DPFs extends beyond privacy concerns (whether users consent to the use of their personal or cookie data for advertising purposes). It raises broader questions, and it is doubtful that current medical advertising regulations can sufficiently address these issues. It may be necessary to introduce new regulations that focus on the characteristics of DPFs, including their handling of

targeted advertisements.

**Proposal 1: Health-related advertisements on DPFs should be properly regulated from a public health perspective.**

**Proposal 1-1: The government should review the advertising regulation system and improve its effectiveness, considering DPFs' business model.**

It is essential to recognize that inappropriate medical advertising can directly harm the public's health. Therefore, in addition to enhancing internet monitoring, it is necessary to strengthen the effectiveness of regulations under the Medical Care Act and related laws. This includes continuously reviewing the Medical Advertising Guidelines, and Case Study Collections to respond promptly and effectively to new types of advertisements appearing on social media.

Furthermore, the framework of the Medical Advertising Council, established as a forum for discussions with relevant authorities, local governments, medical organizations, and various industry groups, should be reinforced to enhance transparency and ensure that DPF advertisements are appropriately displayed, with the aim of preventing and reducing harm to health and consumer problems.

**Proposal 1-2: Those who engage in medical advertising should ensure that their advertising is appropriate after having fully understood the advantages and disadvantages of DPF advertising.**

Those who engage in medical advertising (such as medical institutions) must take the initiative to ensure that the content of the medical care they provide and their advertising are appropriate. They must appropriately comply with relevant laws and the Medical Advertising Guidelines, as well as consider that targeted advertising may hinder patients and the public from making appropriate medical choices and lead to negative health outcomes.

**Proposal 1-3: DPFs should establish and properly implement advertising policies to prevent negative impacts on health.**

Recently, some DPFs have implemented measures, such as using AI to remove advertisements that violate the PMD Act, as part of their efforts to address targeted health-related advertisements. However, DPFs should recognize that medical advertisements may hinder patients' and the public's ability to make appropriate medical choices and should actively establish and implement advertising policies to prevent negative health impacts, even in areas where legislation has not yet progressed.

(For details, see Chapter 2, Sections III and IV.)



## 2 Proposal for Preventing Infodemics

### Case

During his response to the COVID-19, then-President Donald Trump retweeted incorrect information on social media, such as that receiving a vaccine will make your body magnetic and that injecting disinfectant can cure the disease. Despite many experts, including doctors from the government's COVID-19 response team, refuting these claims, this misinformation spread across social media worldwide. According to WHO, there have been cases where users believed misinformation spread on social media and then died, for example, after self-administering disinfectant.

### Issue

WHO has warned about the dangers of “infodemic,” where extensive incorrect health information is disseminated online, posing a serious risk to our lives and health. The risks brought about by an infodemic include, firstly, the risk of viewers taking actions based on misinformation that could harm their health; and secondly, the risk of viewers becoming uncertain about which information to trust.

The cause of the infodemic in this case stems not only from the fact that the person spreading the misinformation was the president, but also because some of his tweets have been cited tweets from a physician. The original tweet by the physician lent credibility to Trump's views, making the above first risk a reality. Moreover, even when physician fought back against the misinformation on social media, ordinary people were left wondering which posts to believe, exacerbating the second risk. At such times, if posts garnering many likes are repeatedly displayed by DPF algorithms, they may become more convincing. The infodemic worsens when misinformation from doctors and DPF algorithms reinforce each other.

**Proposal 2: A framework for ensuring ethical standards to prevent infodemics should be established.**

**Proposal 2-1: Health professionals should unite to consider and declare the professional ethics expected of physicians disseminating public health information.**

Health professionals should understand that their information dissemination could complicate infodemics. They should review the ethics of disseminating information and incorporate it into the professional ethics of medicine through their professional organizations and academic societies.

**Proposal 2-2: DPFs should engage in ongoing self-regulation, recognizing their responsibility for social media and other platforms having caused infodemic outbreaks and harmed people's health.**

DPFs should enter into public agreements with WHO, the government, and medical organizations and publicly release self-regulation policies aimed at preventing the dissemination of health information without scientific basis. These policies should be permanently implemented.

(For details, see Chapter 2, Section V.)

### 3 Proposals for Addressing the ELSI of Using Educational Data

#### Case

In March 2023, the Ministry of Education, Culture, Sports, Science and Technology published the “Points of Consideration for the Utilization of Educational Data (First Edition).” It describes itself as a document that summarizes the points that boards of education and schools should consider when using educational data to ensure safety and security. Most of it is devoted to explaining the Personal Information Protection Act.

#### Issue

The use of educational data through EdTech, such as digital education platforms, raises various ELSI (ethical, legal, and social issues). Although the government has carefully examined the compatibility of educational data use through EdTech with the Personal Information Protection Act, insufficient consideration has been given to its compatibility with the constitution (the highest-ranking “L”), ethical issues (“E”), and social issues (“S”). The aforementioned “Points of Consideration” include minimal explanation regarding the constitutional right to privacy (although it was somewhat expanded in the second edition published in March 2024). Although it introduces the idea of “ELSI” in connection with privacy protection, it does not concretely address ELSI in the context of educational data usage. Furthermore, points related to other rights have hardly been considered, such as the right to education, freedom of education, freedom of thought, or equality.

**Proposal 3: The usage of educational data should proceed considering the ELSI and corresponding measures.**

**Proposal 3-1: The government should review ELSI related to educational data usage while engaging in dialogues with a diverse range of experts and stakeholders.**

To properly identify ELSI related to educational data usage, it is essential for the government to engage in dialogue with experts from various academic fields, EdTech companies, teachers, students, parents, and other stakeholders and fully respect their opinions.

**Proposal 3-2: The government should establish ELSI guidelines for the usage of educational data.**

The government should develop ELSI guidelines that boards of education, schools, teachers, EdTech companies, and other stakeholders must adhere to when using educational data.

**Proposal 3-3: EdTech companies should create pledges related to ELSI for usage of educational data.**

EdTech companies that develop and provide EdTech should create self-regulatory pledges to address legal, ethical, and social issues that legislation has not yet addressed.

(For details, see Chapter 3, Section I.)

## 4 Proposal for Profiling Regulations and Protecting Children

### Case

Children are being actively profiled in the context of EdTech educational data usage. For instance, in Minoh City, Osaka Prefecture, various information related to child poverty, previously managed in a decentralized manner, has been consolidated into the Child Development Monitoring Office database within the Board of Education. The system's algorithms evaluate, for example, financial hardship, academic ability, and non-cognitive abilities, and combine these three factors to provide a comprehensive assessment of the child's condition. Additionally, in Higashiomi City, Shiga Prefecture, a pilot study is being conducted using the cameras on GIGA School tablets as a sensor to estimate students' emotions based on data such as pulse rate, pupil dilation, and acceleration.

### Issue

Profiling, which involves predicting personal characteristics based on AI-based and other algorithms, can lead to the same outcome as acquiring sensitive information if the predictions are accurate. If the predictions are inaccurate, it creates the problem of forming an incorrect profile of the individual. Profiling that uses biometric information, which cannot be changed by an individual's will or effort, is particularly risky. Moreover, profiling children may narrow their learning options and limit their potential for growth and development.

However, the Personal Information Protection Act does not explicitly regulate profiling, nor does it provide special protections for children. Under such legal frameworks, profiling that uses biometric information, such as emotion analysis, is being actively conducted in schools.

**Proposal 4: The government should regulate profiling explicitly through legislation and establish special protections for children concerning personal information.**

#### **Proposal 4-1: The government should regulate profiling through legislation.**

The EU's GDPR explicitly regulates profiling, and the EU's AI Act prohibits the use of AI for emotional analysis in workplaces and educational institutions, categorizing it as an unacceptable risk. In Japan, profiling should be regulated through laws, such as the Personal Information Protection Act, while referring to these international legal frameworks.

#### **Proposal 4-2: The government should legislate special protections for children concerning personal information.**

The EU's GDPR stipulates that children may not fully recognize the risks associated with the processing of their personal data and should, therefore, enjoy special protections. Japan should also legislate special protections for children in relation to personal information.

(For details, see Chapter 3, Sections II and III.)

## 5 Proposal for Protecting Platform Workers

### Case

A certain company decided to transition half of its employees to independent contractors and enter into service contract agreements with them. The aim underlying this decision was to increase incentives for workers to continuously improve their job skills.

Person A, who is an employee of this company, is considering becoming an independent contractor after hearing that it would allow them to have more discretion over their work and potentially increase their compensation depending on their performance. However, Person A also understands that they would have to bear the costs of social insurance and pensions, that their working hours could increase, and that their income and future plans would become less stable owing to the possibility that their service contract could end depending on the work. Person A has young children and a mortgage, making it difficult for them to decide whether to remain an employee or become an independent contractor.

### Issue

In recent years, the platform economy has expanded rapidly. There are two labor models within the platform economy: ① the Uber model, characterized by uniform labor (a specific task), and ② the crowd-sourcing model (CS model), characterized by non-specific tasks (including specialized work). Additionally, some large companies have begun exploring a shift from traditional employment contracts to service outsourcing contracts. The differences between traditional employment contracts and the emerging employment-independent work models can be summarized as follows:

	Traditional Employment	Employment-independent Work
<b>Form of Work</b>	Wage workers	Independent contractors
<b>Employer-employee Relationship</b>	Dependency (personal and economic)	Equal contract parties (there is no employee-employer relationship)
<b>Legal Protections</b>	Protection under labor laws	Labor laws don't protect this type of work
<b>Legal Sphere</b>	Labor law (a special field within private law that protects workers based on actual power imbalances)	Civil Code (governed by the Civil Code, which is a general law, because it is ostensibly a contract between equal legal entities)

This table's distinction between "traditional employment" and "employment-independent work" roughly corresponds to the distinction between "company employees (wage workers)" and "Uber Eats delivery workers (independent contractors)" mentioned in Proposal 6.

However, this type of work arrangement is often pursued with the clear goal of reducing labor costs for employers, and it is difficult to say that it leads to genuine protection for workers. How, then, should the legal system be reformed to address this situation?

**Proposal 5: The government should fundamentally restructure the labor legal regime.**

### Proposal 5-1

With the expansion of employment-independent work, areas uncovered by traditional labor law, which primarily focuses on employees, are expected to expand. Therefore, the state should consider building a new legal regime that encompasses various working styles.

### Proposal 5-2

In society today, the weakening of social ties traditionally held by communities has led to increased isolation of individuals. The rise of employment-independent work brought about by platforms also risks further isolating workers by diminishing the community functions previously fulfilled by companies.

Therefore, when restructuring the legal regime, the state should reference the concept of social inclusion and aim to maintain and create diverse social ties that extend beyond labor alone.

(For details, see Chapter 4, Section I.)

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## 6 Proposal for Social Security Protection of Platform Workers

### Case

Mr. X, working as a delivery person for Uber Eats, was involved in a hit-and-run accident while making a delivery. As Mr. X was not covered by workers' compensation insurance, he could not receive compensation for his medical expenses or lost wages.

According to Uber, delivery personnel are independent contractors rather than employees under an employment contract, meaning there is no system in place to compensate for their injuries. Uber encourages delivery personnel to obtain their own insurance, however, Uber does not know how many of its delivery personnel actually have coverage.

The Chamber of Commerce, of which Mr. X is a member, is preparing to establish a workers' compensation insurance union for freelancers engaged in delivery work and is calling for workers to join the union for insurance coverage.

(This case was partially modified from the original article published in *Zenkoku shōkō shinbun*, no. 3370, dated July 22, 2019. Information on the legal system and circumstances reflect the conditions of the time.)

### Issue

**1** There are significant differences in the application, burden, and benefits of social insurance between employees (such as company workers, civil servants, and teachers) and non-employees (such as self-employed people, including independent contractors) whose way of working style is different (can include working through digital platforms, such as Uber Eats delivery personnel). Social insurance systems for non-employees provide less coverage compared with those for employees (see table below; note that this is related to the discussion in Proposal 5 regarding differences in form of work).

Thus, the validity of the binary classification of employees versus non-employees becomes an issue.



### Differences in Social Insurance Coverage, Burdens, and Benefits between Company Employees and Uber Eats Delivery Personnel

	Company Employees (Wage Workers)	Uber Eats Delivery Personnel (Independent Contractors)
<b>Medical Insurance</b>	Covered by employee health insurance - Premiums are split between the employee and employer - Mandatory compensation for leave owing to illness or childbirth	Covered by National Health Insurance - Premiums are fully borne by the individual - No mandatory compensation for leave owing to illness or childbirth
<b>Public Pension</b>	Covered by National Pension + Employees' Pension - Premiums are split between the employee and employer - Flat-rate + income-proportional benefits	Covered by National Pension - Premiums are fully borne by the individual - Flat-rate benefits only
<b>Workers' Compensation Insurance</b>	Applies to companies employing workers, with all premiums paid by the employer	Optional enrollment system (special enrollment system) exists, however, all premiums are borne by the worker
<b>Employment Insurance</b>	Eligible for coverage	Not eligible for coverage
<b>Long-term Care Insurance</b>	The system is the same as for independent contractors, however, premiums are split between the employee and employer	The system is the same as for wage workers, however, premiums are fully borne by the individual

**2** Expanding the definition of employees to include self-employed individuals is not necessarily the solution. Doing so could negate the benefits of flexible work styles, which involve less temporal and spatial restriction. Moreover, it may hinder the development of DPF-based work, which can have positive social, economic, and environmental impacts.

Thus, determining the best approach to providing social security (particularly social insurance) for DPF workers (platform workers) becomes an issue.

**3** Even if social security (particularly social insurance) protection is extended to platform workers, it is unclear whether digital platforms can be required to bear the same obligations as employers (such as employer-paid insurance premiums).

Thus, the role of DPFs in protecting platform workers is another key issue.

**Proposal 6: The government should review social security protection for platform workers by considering how and what to secure for who while recognizing the interconnectedness of these three factors.**

#### Proposal 6-1

As for *who* should be protected, the government should consider who are the subjects of social security rights in relation to *labor* (not *employment*) by examining categories such as ① all individuals, including non-working individuals (e.g., unemployed or retirees); ② all workers, including both employees and self-employed persons; or ③ (a part of) platform workers (a subset of self-employed persons).

### Proposal 6-2

As for *what* to secure, the government should consider what risks to protect platform workers from, considering the relationship between the risks covered and their work: ① risks that are separate from occupational activity, or, if risks are related to occupational activity; ② the risk of losing occupational activity itself; or ③ the risk of injury or illness during occupational activity.

### Proposal 6-3

The government should consider *how* to provide protection for platform workers, addressing factors such as ① the system (social/public insurance vs. private insurance); ② the funding source (taxes or insurance premiums, calculation methods, and contributors; in France, digital platforms pay workers' compensation premiums for platform workers under certain conditions); and ③ the benefits system (uniform flat-rate benefits or income-proportional benefits).

(For details, see Chapter 4, Section III.)

## **Chapter 1**

# **SOCIETY, SYSTEM AND DIGITAL PLATFORM**



## Chapter 1 - I

# SCIENCE, TECHNOLOGY, AND SOCIETY ON DATA

: From the Perspective of Science and Technology Studies

Mai Suzuki<sup>\*</sup>

Modern society, represented by digital platforms, is an era in which various data are collected and used in many different situations. As discussed in the chapters of this book, these situations occur everywhere in our lives, including in health, education, and work. Consequently, benefits, such as personalized healthcare, education, and work, as well as various problems arise. This study examines the issues that have arisen regarding the collection and use of such data within the framework of the Science and Technology Studies (STS).

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## 1 What is STS?

Science and technology have permeated every aspect of our daily lives and we cannot live without them. However, simultaneously, they can have negative impacts on society, such as environmental degradation (e.g., global warming) and various accidents. STS examines how scientific knowledge and technology are created and how they relate to society from the perspectives of the humanities and social sciences.

STS as a field of academic research has developed since the 1970s, and STS scholars have visited science and technology sites, such as laboratories, to analyze how scientific knowledge and technology are created through the interaction of people and articles, how the created scientific knowledge and technology affect society, and vice versa, how society affects scientific knowledge and technology [Felt et al.(eds.) 2016; Fujigaki (ed.) 2020; Hibino et al. (eds.) 2021; Matsumoto (ed.) 2021; Sismondo 2010; Tsukahara et al. (eds.) 2022].

This study examines the collection and use of data from an STS perspective, which involves data science and other science and technology experts, as well as the general public, who are non-experts. The following sections consider the issues that arise when experts or non-experts in science and technology interact with data.

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## 2 Data and Science and Technology

### (1) Data-Centrism

As science and technology advance and enable to collect and process large amounts of data, data-centric science, such as data-intensive and data-driven science, has emerged as a “fourth paradigm” in contrast to existing sciences such as experimental/observational, theoretical, and computational fields [Kitamoto 2021]. With the rise of data-centric science, it is expected that data collected from various fields can be used to introduce innovative perspectives, accelerate research, and reduce costs [Edwards et al. 2011].

However, the expansion of data-centered science has had various effects on scientific disciplines. For example, biology has traditionally focused on the morphology of organisms. However, molecular biology, which studies organisms from the perspective of physics, was introduced. Organisms are now analyzed from four types of bases: adenine (A), thymine (T), guanine (G), and cytosine (C). DNA, the blueprint of an organism, is digital data recorded in a sequence of these four types of symbols [Taguchi 2020], and molecular biology aims to understand organisms by analyzing these data. With the birth of molecular biology, data-centrism was introduced into biology, and organisms were understood based on large amounts of digital data. Moreover, this expansion of data-centrism in science can be observed in other scientific fields, which offer some resistance.

Toxicology analyzes the response of organisms to toxins. It originally analyzed the response of organisms to toxins in terms of changes in their morphology. However, the field of toxicogenomics, which analyzes the responses of organisms to toxins based on the analysis of their base sequences, has emerged. Although, this new discipline has faced resistance from traditional toxicology, in response, toxicogenomics has expanded its influence by building databases that are accessible to many scholars and by bringing on board various fields of research outside of toxicology [Shostak 2005]. Similarly, there is friction between microbial ecology, which analyzes microorganisms based on their shape and behavior, and molecular microbiology, which analyzes microorganisms based on their nucleotide sequences; however, microbial ecology is overwhelmed by molecular microbiology in a data-centric approach [Sommerlund 2006].

### (2) Data Integration

Although data-centrism is expanding and there is a backlash against it, the scope of science has broadened in recent years, more opportunities are available to collaborate on projects in multiple fields than in only one field. In addition, with the rise of data-intensive and data-driven science, it is expected that data from different scientific fields will be shared and leveraged. Amid this trend in interdisciplinary research, there has been a move to build cross-disciplinary databases that integrate data from each scientific field; however, several problems have arisen in this area. First, different scientific fields have different ideas about the definition of data, the purpose of data collection, and how data are collected, hindering creation of a database that is universally agreed upon and usable [Leonelli 2012; Star and Ruhleder 1996].

Issues related to metadata have also been raised in the context of data integration. Metadata refers to “data about data” [Hey and Trefethen 2003] and “information about data” [Michener 2006], including an

overview of the data and where and when the data were created [Edwards et al. 2011]. Metadata ensures the reliability, sharing, and effective use of data [Bowker 2005; Mayernik 2019]. Moreover, it is necessary to create a common infrastructure for metadata in interdisciplinary research. However, as scientific disciplines and scientists differ in their consideration and value of metadata, conflicts arise between them in creating standardized criteria for metadata, and considerable time and effort is required to coordinate these conflicts. Moreover, even when common standards for metadata are established, they may not be applicable in interdisciplinary research [Edwards et al. 2011]. As data-centrism increases in science, interdisciplinary data sharing is expected to advance scientific research and improve efficiency. However, there is an optimistic aspect of these expectations.

### (3) Science, Technology, and Culture

Data-integration problems are related to the existence of different cultures in different scientific fields. Knorr-Cetina compared molecular biology and high-energy physics [Knorr-Cetina 1999].

In her study, she clarified that in molecular biology, scientists directly handle the experimental objects and treat the target organisms as if they were machines. In contrast, in high-energy physics, large experimental equipment is operated by a large group of scholars, and the analysis of indirectly graspable objects is conducted while the experimental equipment is treated as an organism. In addition, she highlighted differences in research objects, methods, and scholar behavior between the two scientific fields. For example, in molecular biology, individual contributions are valued and their names are clearly stated in publications, whereas in high-energy physics, collaboration is valued, and individuals are buried among many co-authors in publications [Knorr-Cetina 1999; Suzuki 2022].

Knorr-Cetina attributed these differences between molecular biology and high-energy physics to the differences in epistemic cultures between the two [Knorr-Cetina 1999]. As people in different societies have different cultures, different fields of science have different cultures; therefore, there are differences in data interpretation, collection methods, and so on, which complicate data integration.

Furthermore, it is often assumed that science and technology are researched and developed in the same manner worldwide, and that the results are used in the same manner. However, in reality, the state of scientific research and technological development differs according to the policies of each country and the expectations of its people. Moreover, differences exist between countries and regions in the acceptance and use of scientific knowledge and technology [Hibino et al. (eds.) 2021]. Studies focusing on these differences in the state of science and technology in different places are called Geography of Science [Livingstone 2003].

Regarding databases, many cases exist in which international integration is expected, not simply between scientific disciplines. However, issues have arisen in terms of international database integration from the perspective of Geography of Science. In particular, for human-related databases, each country has its own laws regarding the collection, registration, and use of data. Accordingly, databases are constructed and operated differently in each country based on these laws. Therefore, when integrating databases internationally, it is necessary to harmonize the relevant laws of each country. However, integrating laws that are closely related to the culture and social context of each region internationally presents a significant challenge, and the inte-

gration of international databases requires considerable effort [Suzuki 2017].

As described above, various impacts and issues surrounding data are clear, such as the impact on other scientific fields as the influence of data-focused science expands and the challenges that arise in collaboration with other scientific fields and in sharing data. However, not only experts are involved with the data. Therefore, this study considers the issues that arise in relation to non-experts with respect to data.

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## 3 Data and Citizens

### (1) Citizen Science

Scientific activities have been conducted by experts; however, recently, the general public (citizens), who are not science experts, has begun to participate in scientific research. Such activities are referred to as citizen science, which is defined as “citizen-participatory projects carried out in collaboration between researchers and other experts and citizens” [Ikkatai 2020] or “scientific work undertaken by members of the general public, often in collaboration with or under the direction of professional scientists and scientific institutions” [Hayashi 2015; Oxford English Dictionary 2014]. Citizen science involves a wide range of objectives and methods of participation [Hara et al. 2020; Ikkatai 2020]. These include activities such as groups of AIDS patients conducting their own research and contributing to the development of new clinical trial methods [Epstein 1996], as well as Do It Yourself Biology, which uses open-source data to create biotechnological innovations in a home garage or elsewhere [Hibino et al. (eds.) 2021; Mirowski 2018; Wohlsen 2011].

Moreover, the citizen science movement is associated with data. Recently, new ways of conducting citizen science have emerged through the use of digital platforms. The public currently participates in online scientific research in the form of data collection and analyses. For example, the Galaxy Zoo project, launched at the University of Oxford in 2007, allows online citizen participants to analyze and classify images of galaxies based on their shape. In 2009, Galaxy Zoo was integrated into a scientific research platform called Zooniverse. Here, various research projects in the natural sciences and humanities remain open to the public, and citizens volunteer to participate in each project and analyze data online. In a citizen project called Foldit developed by researchers at the University of Washington, citizens can predict how protein molecules arise from DNA through a computer game. The eBird citizen project, run by the Cornell Lab of Ornithology, allows citizens to upload the information they observe about the birds to an online site and contribute to the creation of a global bird distribution map [Nielsen 2011].

Various digital platforms for citizen participation in scientific research have been established, and various mechanisms have been created to encourage continuous participation. The expansion of such platforms for scientific research can create a change in the relationship between scientists and citizens in a manner that the privileged status of scientists is removed, and both scientists and citizens become users of the platforms [Baudry et al. 2022; Nielsen 2011].

## (2) Democratization

One area in which citizens are expected to collect and use data is healthcare [cf. Ministry of Health, Labour and Welfare, Advisory Panel for the Promotion of AI Utilization in the Healthcare Sector 2017]. The use of data collected from patients will enable doctors to provide medical care remotely, and enable personalized medical care. Although data-driven healthcare is expected to improve patient health, challenges have also been identified.

For example, wearable devices and online symptom checkers allow patients to generate their own health data with a focus on collecting and integrating these data. The European Union (EU) has invested heavily in the creation of the European Health Data Space (EHDS) to integrate data from patients' wearable devices with other health data. These investments aim to help individuals manage their health data, improve healthcare accessibility and effectiveness, and enhance the quality of life. Further, it will enable healthcare professionals to perform their jobs more effectively by providing easy access to patients' health data [Dorazil 2020; European Commission 2022a; 2022b]. However, these expectations are optimistic. In Denmark, it is considered a citizen right for patients to share their information with the healthcare system, and the digitalization of healthcare is underway, aiming to integrate various health data, including data from patients' wearable devices [Finansministeriet 2022; Langstrup 2019]. However, interviews with general practitioners (GPs) who treat patients [Haase et al. 2023] revealed that patients rarely bring their health data based on wearable devices and online symptom checkers. Further, GPs do not consider such health data as objective test values, but as subjective, comparable to patient narratives. They are not adequately prepared to integrate and use patient-generated data in clinical practice, and considerable effort is required to interpret and explain how the data shared by the patient relate to the disease. This has resulted in a situation where the data are disregarded or poorly used by both patients and doctors, limiting its effective use. The use of health data generated by individual patients, including wearable devices, is expected to democratize and streamline healthcare. However, the reality is the opposite; neither patients nor doctors effectively use health data, and the situation is increasing the burden on both parties [Haase et al. 2023].

## (3) Privacy

In addition, privacy issues have been raised regarding the data collected and used. Technologies such as smart home appliances and social robots that collect various data from users, operate home appliances, search for information, and communicate with users based on such data, make people's lives more convenient. However, Google, for example, has been criticized since it was revealed that Google patented a toy that collects data on the various words and actions of its users and responds to them [BBC 2015; Kukita et al. 2017]. One concern is that the shape of the toy allows children to play with it and unknowingly violates their privacy. However, it has also been revealed that Amazon's smart speakers for children collect and record users' voices indefinitely [BBC 2019; 2023] and that outsiders were listening to users' voices in relation to a voice assistant provided by Apple [The Guardian 2019]. Privacy issues associated with data collection and use are highly controversial. Some users are more vulnerable than others, such as children and the elderly, and the risk of their privacy being easily violated or manipulated is problematic [Coeckelbergh 2020].

#### (4) Relationships/Discrimination

Living in a world based on massive amounts of data, and the emergence of digital platforms have had a profound impact on how we relate to one another. Turkle argued that while digital society has enabled people to connect with people worldwide online, it has also resulted in a loss of opportunities for physical interaction, which may result in a loss of the ability to know oneself, care for others, and empathize [Turkle 2011; 2015]. A study conducted at the University of Michigan determined that today's students are less empathetic toward others than they were 20–30 years ago, and the existence of casual relationships through social media and other means that do not involve in-person contact has been cited as a contributing factor [Kukita et al. 2017].

The issue of discrimination caused or encouraged by data-related technologies has also been raised. Facial recognition technologies offered by various companies have been found to be more accurate for lighter-skinned men and less accurate for darker-skinned women [Najibi 2020]. This means that darker-skinned people are more likely to be misidentified than lighter-skinned people, and that women are more likely to be misidentified than men. In 2020, a facial recognition system misjudgment led to the wrongful arrest of a man of African descent [CNN 2020]. Furthermore, technologies that identify lesions based on patient data often perform poorly on patients from other populations because the majority of patient data emerges from a specific population, resulting in unfair diagnostic bias [Japan Medical Association Advisory Panel on Bioethics 2022]. The presence of bias in these data-based techniques and decisions has been observed in various settings [cf. Yamamoto and Ozaki 2018]. However, the underlying cause is the potential bias in the human population that creates the algorithms used to collect and analyze data, as well as in society at large [Coeckelbergh 2020; Ema 2021]. It has been suggested that the values of privileged and educated young white males among algorithm creators may drive this discrimination [Coeckelbergh 2020; Hu 2015].

Discrimination within the field of scientific and technological research and development is also an issue. For example, in the United States and Europe, visas are issued to highly skilled foreign software engineers who are hired by companies as casual workers. These casual workers are often from Asia, and the analysis reveals that this is owing to the prejudices that Asian programmers have high mathematical thinking skills, prefer rote jobs, come from overcrowded areas where competition is intense, and are naturally hardworking, making them more suited to tedious and grueling work [Amrute 2020].

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## 4 Living in a Data Society

It is believed that modern society, based on the collection and use of large amounts of data, will provide the goods and services that individuals desire, and will also allow non-experts to participate in knowledge and technology that used to belong to experts, thereby democratizing science and technology. However, various challenges have been identified in this data society and it has become clear that the envisioned future is not necessarily rosy. In addition to the issues aforementioned, several other issues are expected to arise in the future, such as platform security and liability when problems arise, the digital divide between those who



have access to the platform and those who do not, platform transparency, and the relationship between the current system and the platform.

The first important aspect of such a light-dark data society is the dispassionate perspective on science and technology. People often imagine science and technology to be certain, rigorous, and trustworthy [Fujigaki 2005; Renn 1995]. However, as discussed in this paper, science and technology face various challenges and limitations. Although science and technology have the potential to make our lives richer, they are not a panacea; they pose various challenges and can sometimes be detrimental to society. It is important not to have blind faith in science and technology but to accept a middle path, without denying it altogether.

To solve various problems related to science and technology, it is necessary for different people in society to discuss the state of science and technology and the society that they produce together. Nuclear physicist Weinberg defined “trans-scientific questions” as questions that transcend science and cannot be answered by science alone as science grows in size and influence on society [Weinberg 1972]. Some of the data-related issues discussed in this paper involve aspects of trans-scientific questions.

In the past, problems related to science and technology were solved by scientists and engineers who were experts in these fields. However, it is no longer possible for scientists and engineers alone to solve problems that arose at the interface between science and technology and society, such as trans-scientific questions. Therefore, a participatory social decision-making method called Participatory Technology Assessment was implemented. Participatory Technology Assessment is a method in which ordinary people, who have been excluded from discussions on issues related to science and technology, analyze and evaluate the impact of science and technology on society and the problems it causes through dialogue with experts, and then propose solutions to these problems [cf. Hirono et al. (eds.) 2023]. Rather than restricting issues related to science and technology to a select few, we must discuss problems and solutions with many people.

Recently, much emphasis has been placed on examining the impact of advanced science and technology on society; in particular, the types of ethical, legal, and social implications/issues (ELSI) that are likely to arise from new science and technology. ELSI was first proposed in the context of the Human Genome Project, which was launched in 1990, and has since been applied not only to biotechnology, but also to various other scientific technologies, such as nanotechnology and artificial intelligence [Hirono et al. (eds.) 2023]. In addition, ELSI has evolved into Responsible Research and Innovation (RRI), particularly in Europe. RRI is characterized by its focus on the economy, in addition to the ethical, legal, and social implications/issues of science and technology. Scientists and engineers collaborate with citizens, policymakers, industry, scholars in the humanities and social sciences, and other third sectors such as NGOs to improve science and technology and society by considering issues related to science and technology and their solutions from the early stages of research and development of new science and technology [Fujigaki 2018; Kamisato 2022; Center for Research and Development Strategy, Japan Science and Technology Agency 2021]. Moreover, RRI emphasizes fairness in fields where science and technology are produced, such as eliminating discrimination in science and technology research and development [Fujigaki 2018; Center for Research and Development Strategy, Japan Science and Technology Agency 2021].

ELSI and RRI are sometimes considered as brakes that could lead to stricter regulation of science and

technology and hinder its development. However, if scientists and engineers actively address issues related to science and technology and cooperate with various stakeholders, they will win public trust, which will lead to progress in research and development. Thus, the ELSI and RRI play the role of handles that lead science and technology to better development [Center for Research and Development Strategy, Japan Science and Technology Agency 2021].

The various data-related issues discussed in this study also need to be considered from the ELSI and RRI perspectives. It is expected that new science and technology related to data will continue to emerge and be introduced into society; however, it will be necessary to solve problems in collaboration with a wide range of stakeholders. Science and technology can potentially create new societies. We who live in a data society must be aware of this and take action to make such a society even better.

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# “OSEKKAI” DIGITAL PLATFORM CONTROLLED HEALTH MANAGEMENT

: A System Design Approach for New Healthcare Systems

Masako Toriya<sup>\*</sup>

Japan's healthcare<sup>1</sup> system faces significant challenges in the wake of its aging population and evolving healthcare needs. This chapter explores the role of digital healthcare, specifically the Osekkai Digital Platform (DPF) system, in addressing these challenges.

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## 1 Challenges in Japan's Healthcare System and Emerging Opportunities in Digital Healthcare

Japan is currently facing an unprecedented challenge due to its rapidly aging population. By 2040, population aged 65 and above is projected to reach approximately 40 million<sup>2</sup>. Simultaneously, declining birth rates are expected to significantly reduce the working-age population. This demographic shift raises concerns about increasing social security costs.

Enhancing healthy life expectancies is crucial in response to these demographic changes. Healthy life expectancy is defined as a period during which individuals lead their daily lives without health-related restrictions. Introduced by the World Health Organization (WHO) in 2000, the concept has garnered global attention. However, Japanese people currently face prolonged periods of “unhealthy life,” necessitating a

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<sup>1</sup> Health care can be defined in several ways and often implies a wide range of “health management,” including medical and long-term care. The Japan Association of Health Care Initiative defines health care (simplified version) as “the creation of new value through cross-industry support to achieve freedom from illness and mental and physical infirmity by raising one’s own “zest for living” and “various activities for this purpose.” According to the report’s detailed version, in total 29 health care-related fields in the three areas of medicine, health, and daily life, including medical care, pharmaceuticals, home care, and care for the elderly, among others are the envisaged health care-related fields that need to be considered. A clear definition of health care is neither provided by the Ministry of International Trade and Industry (MITI) nor the Ministry of Health, Labour and Welfare (MHLW), which implies that the scope of health care is often interpreted as mentioned above. However, in this working paper, we distinguish between those covered by the existing medical insurance and long-term care insurance systems and various other measures and devices related to health maintenance and position the latter as “health care.”

<sup>2</sup> National Institute of Population and Social Security Research. (2017) Population Projections for Japan (2016-2065): Summary. Accessed February 8, 2024. [https://www.ipss.go.jp/pp-zenkoku/e/zenkoku\\_e2017/pp\\_zenkoku2017e\\_gaiyou.html#e\\_zenkoku\\_II\\_A-2](https://www.ipss.go.jp/pp-zenkoku/e/zenkoku_e2017/pp_zenkoku2017e_gaiyou.html#e_zenkoku_II_A-2)

focus on individuals' health management to improve overall life expectancy.

Despite the need for enhanced health management, structural issues within Japan's healthcare system have hampered the growth of preventive healthcare. Japan's universal health insurance system, with its lower out-of-pocket costs and a freedom to choose medical institutions<sup>3,4</sup>, has inadvertently resulted in low preventive healthcare awareness<sup>5</sup>. Consequently, expanding the preventive healthcare service market in such an environment becomes a daunting task.

In contrast, United States faces different challenges. Medicare is a federal health insurance program that covers older adults, people with disabilities, and individuals with End-Stage Renal Disease (ESRD). High healthcare costs for other population segments have resulted in affordability issues<sup>6</sup>, creating a substantial market for preventive healthcare services. Hence, the United States market is driven by heightened awareness and the need for affordable care.

Although Japan's healthcare system is accessible but the rising healthcare costs have become a major cause of concern. A growing need is felt for proactive health behaviors and preventive healthcare measures to mitigate these issues. Thus, we investigated and analyzed the current situation and issues in the Japanese healthcare market and new technologies to explore effective approaches. This includes completely new services and social systems in which preventive healthcare can be enhanced, going beyond the confines of traditional medical and long-term care insurance frameworks. Based on information on existing health care services obtained through research and analysis of a wide range of health care fields, we aimed to generate new ideas that departed from those typical services.

Recently, digital technology has garnered significant attention in the healthcare sector. Digital technologies offer low cost, high speed processing, and accessible data integration with other systems, enabling the seamless provision of high-quality healthcare services with immediate response and personalization. However, in Japan's current landscape, no mega-DPF exists in the healthcare field with various service providers offering individualized services to users<sup>7</sup>. Consequently, individuals' health data are scattered across service providers. While these service providers aspire to evolve into major DPFs and dominate the market, the market is crowded with a multitude of small-to medium-sized service providers resulting in stagnation and a lack of data integration. This coexistence impedes the flow and integration of data among the

3 Japan Medical Association website <https://www.med.or.jp/people/info/kaifo/compare/>

4 Shimizu Takeshi. (1999). Iryou keizaiteki sokumen kara mita Nihon no iryou [Medical aspects of Japan's healthcare from an economic perspective]. *Nihon Mibyou System Gakkai Zasshi* [Journal of the Japan Society of Metabolic Syndrome], 5(1), p.96-100.

5 Kamikoube Yasuko. (2021). Kokunai herusu kea saabisu doutai to PHR rikatsuyou ni tsuite [Trends in domestic healthcare services and the utilization of PHRs]. JIPDEC Denshi Jouhou Rikatsuyou Kenkyuubu Repooto 2021 [JIPDEC Electronic Information Utilization Research Department Report 2021]. Retrieved from <https://www.jipdec.or.jp/library/report/u71kba0000017at2-att/20210706.pdf>

6 JETRO Chousa-bu Beishuuka, JETRO New York Jimusho. (2021). Beikoku ni okeru iryou hoken seido no gaiyou [Overview of the healthcare insurance system in the United States]. P.7. Retrieved from [https://www.jetro.go.jp/ext\\_images/\\_Reports/01/01168598c658e4b0/20210019.pdf](https://www.jetro.go.jp/ext_images/_Reports/01/01168598c658e4b0/20210019.pdf)

7 Kabushiki-gaisha Nihon Sougou Kenkyuujyo [The Japan Research Institute, United] Sentan Gijutsu Rabo, Kabushiki-gaisha Mitsui Sumitomo Finansharu Gurupu, Shirikon Barē Dejitaru Inobeshon Rabo. (2021). Dejitaru de henkou suru Beikoku no 'The Healthy Company' ~ Nichibei kenkou keiei no hikaku kara kousatsu suru waga kuni no kadai ~ [The transformation of the United States' 'The Healthy Company' in the digital age: Reflecting on Japan's challenges through a comparison of Japanese and American health management]. P.28.



service providers and undermines the market’s overall innovation and efficiency. Consequently, when users utilize multiple services (apps), they have to self-manage their data, which is burdensome. Data interoperability is essential for enabling the seamless use of multiple services, but currently, such interoperability is not well established in Japan<sup>8</sup>. For instance, when analyzing data from an app monitoring sleep patterns and another app assessing stress, operated by two different companies, a potentiality exists to accurately capture the user’s mental state. However, in the absence of collaboration between these two companies, users may fail to reap the benefits of an integration. A major factor hindering collaboration is the lack of data standardization for a comprehensive handling of the data. In addition, the rules, guidelines, and third-party certification mechanisms have not been sufficiently established for businesses that deal with individuals’ vital data measured on a daily basis in addition to medical and health examination information.

In contrast, in the United States, data integration through Application Programming Interface (API)s, driven primarily by mega-DPFs such as Apple and Google has witnessed considerable progress. Users in the United States have full authority over their health data and can easily share it with hospitals and service providers through apps, allowing them to aggregate and manage multiple data sources<sup>9</sup>. Although, data integration in Japan is less common compared to the US, efforts are underway to promote data integration in healthcare. For example, the General Incorporated Association PHR Council<sup>10</sup> has been conducting activities to promote the adoption of Personal Health Records (PHR). Data standardization plans encompass standardizing data exchange formats, which focus on evidence-based data related to lifestyle diseases, such as weight, blood pressure, step count, HbA1c (Hemoglobin A1c), information related to emergency medication, and critical allergy information<sup>11</sup>. Furthermore, the Ministry of Health, Labour and Welfare (MHLW) is promoting the use of “HL7 FHIR (Fast Healthcare Interoperability Resources)” as a standard framework. Compliance with the HL7 FHIR is stated explicitly for specific health checkups, health examination data, discharge summaries, and patient medical information-sharing documents. In future, with the establishment of an information exchange infrastructure through Open FHIR, not only will data exchange between hospitals become more efficient, but its primary use through Personal Health Records (PHRs) on individuals’ mobile phones and secondary use through data outsourcing to the “Personal Data Trust Banks” will become

8 Nihon Keizai Dantai Rengoukai [Japan Business Federation]. (2020, July 14). Society 5.0 jidai no herusukea II ~ DX ni yoru COVID-19 taiou to sono saki no mirai ~ [Healthcare in the era of Society 5.0 II – The future beyond COVID-19 response through digital transformation]. Retrieved from [https://www.keidanren.or.jp/policy/2020/062\\_honbun.pdf](https://www.keidanren.or.jp/policy/2020/062_honbun.pdf)

9 Kabushiki-gaisha Nihon Sougou Kenkyuujyo [The Japan Research Institute, United] Sentan Gijutsu Rabo, Kabushiki-gaisha Mitsui Sumitomo Finansharu Gurūpu, Shirikon Barē Dejitaru Inobēshon Rabo. (2021). Dejitaru de henkou suru Beikoku no ‘The Healthy Company’ ~ Nichibei kenkou keiei no hikaku kara kousatsu suru waga kuni no kadai ~ [The transformation of the United States’ ‘The Healthy Company’ in the digital age: Reflecting on Japan’s challenges through a comparison of Japanese and American health management]. p.28. (previously mentioned material)

10 General Incorporated Association PHR Council. <https://phr.or.jp>. An organization that conducts research and studies for the proper promotion of Personal Health Records (PHR), establishes guidelines and certification systems, and engages in policy advocacy activities. The PHR Council, with 13 municipalities and 45 companies as members, focuses on a broader definition of PHR, not just as records accessible to patients by healthcare providers but as a system that leverages data related to medical care, nursing care, and health (Person Generated Data) under the individual’s discretion.

11 Research Project Keio 2040, the Extending Healthy Life Expectancy Project Team. (2023). Proposal for a Behavioral Change Digital Platform to Extend Healthy Life Expectancy Towards 2040. p. 30. Retrieved from [https://www.kgri.keio.ac.jp/docs/L0120230905\\_full.pdf](https://www.kgri.keio.ac.jp/docs/L0120230905_full.pdf)



rapid and convenient. As Japan grapples with these multifaceted healthcare challenges, the integration of digital healthcare solutions has emerged pivotal. This approach not only addresses the immediate needs of its aging population but also establishes the foundation for a more interconnected and efficient healthcare system<sup>12</sup>.

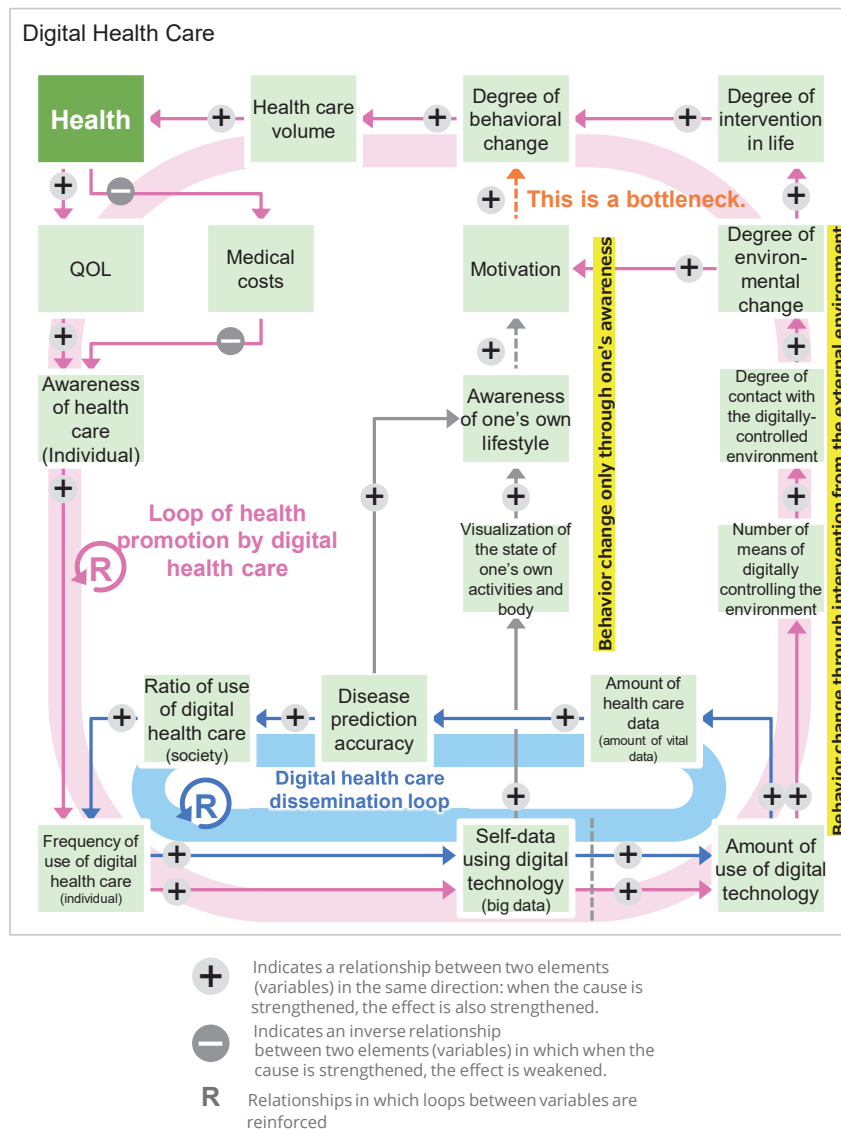
## 2 Digital Healthcare Adoption Challenges

It is significant to understand whether it is possible to achieve digital healthcare, along with health maintenance and disease prevention goals, solely by addressing data management challenges, including data standardization and establishment of rules for data interoperability. Despite the availability of digital healthcare services, many individuals still face challenges in managing their health status independently. A major factor contributing to the limited market expansion of digital healthcare services is its inability to fully deliver health benefits.

Utilizing a systems thinking approach, we identified a critical bottleneck in behavior change for enhancing user health, which is majorly dependent on individual initiatives and self-motivation (Figure 1). Even if digital healthcare services are disseminated, they will not directly result in improved health conditions. For example, although numerous services that monitor health status through wearable devices exist, they require users to proactively change their lifestyle to take advantage of them, such as by increasing physical activity and modifying their diet. This underscores the importance for individuals to take initiative in their personal health improvement journey. In reality, however, few people possess the strong will required to change lifestyle habits. Hence, we wondered how it would be possible to promote behavior change without relying solely on individual motivation. We acknowledged that in addition to changes in users' motivation, it is equally important to foster environmental changes that promote behavior change. This entails digitally controlling one's living environment and providing motivation and intervention to facilitate behavioral change. For instance, the entry of e-commerce platforms into the digital healthcare market and their integration with information on individual preferences and health information may lead to a rapid provision of personalized healthcare services tailored to each individual's lifestyle and health condition, thereby accelerating the creation of personalized living environments.

Furthermore, as the Internet of Things (IoT) expands, the integration of physical objects in our surroundings with the Internet will become more widespread. This will enable the digital management and personalization of living environments, such as homes and offices, which will further intervene in our actions. Environmental interventions can lead to increased behavioral changes in health, including exercise, ultimately contributing to health promotion. The quantitative monitoring of health promotion is expected to raise awareness on healthcare resulting in an increased utilization of digital healthcare services.

<sup>12</sup> Research Project Keio 2040, the Extending Healthy Life Expectancy Project Team. (2023). Same as above. p. 32.

**Figure 1: Bottleneck for Digital Health Care to Improve Health**

(The figure is adapted from the working paper by Research Project<sup>13</sup> Keio 2040, the Extending Healthy Life Expectancy Project Team)

### 3 Proposal on “Osekkai” Digital Healthcare System

Therefore, based on the aforementioned considerations, we propose a new system that utilizes digital technology for proactive intervention in users’ living environments for promotion of behavioral changes for better health and extension of a healthy life expectancy. This goes beyond merely influencing individ-

<sup>13</sup> Research Project Keio 2040, the Extending Healthy Life Expectancy Project Team. (2023). Proposal for a Behavioral Change Digital Platform to Extend Healthy Life Expectancy Towards 2040. p. 27. Retrieved from [https://www.kgri.keio.ac.jp/docs/L0120230905\\_full.pdf](https://www.kgri.keio.ac.jp/docs/L0120230905_full.pdf)

uals’ through reminders and encouragement. It actively intervenes in the user’s physical living environment, including changes in the surroundings and attitudes of people in the user’s social circle, to stimulate behavior and lifestyle changes—an “Osekkai” form of support. The Japanese term “Osekkai” carries a mix of negative and positive implications. Although, it can indicate unwelcome meddling depending on its context and timing, in this chapter we refer to it as a benevolent step to assist someone. Such intervention requires a thorough comprehension of the individual’s situation and needs, and involves resolving not only issues considered significant by the individual, but also those not yet considered important. Various use cases can be envisaged; for instance, in an office setting, the system can remind someone sitting for a long time to take a stretch break. Another example could be the automatic adjustment of a food delivery order to a low-calorie meal for users following dietary restrictions.

To provide appropriate “Osekkai” interventions, it is significant for the system to monitor the user’s health status and lifestyle behaviors, integrate and analyze the acquired data, and determine suitable intervention services at the appropriate time. Examples of environmental interventions include a system that locks a computer every hour, requiring push-ups to unlock it—a more direct form of intervention<sup>14</sup>. In a subtler intervention, a university cafeteria increased the number of vegetarian meal options from one of four to two, which in turn resulted in the purchase of vegetarian meals among individuals who had not previously chosen them<sup>15</sup>.

In addition to the physical environmental changes outlined above, it is also possible to positively influence the social environment. This can be achieved by encouraging people in the users’ social circle to engage in supportive behaviors, thereby creating a more conducive atmosphere for positive interactions and well-being. For instance, a system that detects stress due to excessive workload in office could notify supervisors or colleagues, leading to a reduced or redistributed workload and an enhanced working environment. An effective utilization of the aforementioned system can result in natural changes in the surrounding environment, which may assist in resolving health-related issues, such as diet, exercise, overwork, and stress, with minimal effort. As the “Osekkai” behavior change system evolves, it has the potential to intervene in every aspect of a user’s life for achieve various objectives. Additionally, it can be utilized as a platform for providing appropriate support to individuals with disabilities and other specific needs.

As detailed above, although experiments and individual services which involve interventions in living environments are currently available, a comprehensive DPF that connects various monitoring and interventions is lacking in implementation. Nevertheless, it is likely that a potential DPF with the capability of physical interventions in our behaviors and action control will emerge sooner than later.

14 Raspberry Pi. (2022, April 26). Unlock your PC with a pushup or two. Raspberry Pi website. Accessed November 30, 2023. <https://www.raspberrypi.com/news/unlock-your-pc-with-a-pushup-or-two/>

15 Emma E. Garnett, Andrew Balmford, Chris Sandbrook, Theresa M. Marteau. Impact of increasing vegetarian availability on meal selection and sales in cafeterias. *Proc Natl Acad Sci USA*. 2019. 116(42) 20923–20929. <https://doi.org/10.1073/pnas.1907207116>

## 4 Risk Management Associated with “Osekkai” Digital Healthcare System

While DPFs for controlling physical actions can potentially promote behavioral changes in challenging health-related activities, DPFs that affect purchasing and viewing behaviors may exert a stronger influence in comparison to existing ones. Therefore, it is crucial not only to prioritize personal data protection and security to safeguard users from third-party malice but also to establish mechanisms that prevent control beyond users’ own decision-making boundaries.

In contemplating the potential impact of “Osekkai” DPFs’ on individuals, it is necessary to categorize the operation patterns. It is acknowledged that entities other than corporations can become DPF operators in the healthcare domain. An example of a local government taking the lead in the operation of a health-related DPF is the “MY CONDITION KOBE” initiative in Kobe. This initiative allows registered residents to record lifestyle data, such as steps taken, meals, and health examination results, which enables them to monitor their health information. It also awards health points that can be exchanged for benefits sponsored by local companies<sup>16</sup>. However, with local governments as the primary service providers, these services are usually restricted to residents within specific municipalities. This limitation hinders the ability to offer services across regions and poses challenges in their widespread adoption.

Another theoretical possibility is to connect the “Osekkai” DPF to “My Number Portal,” an individual oriented government portal site primarily managed by the national government. This scenario does not result in disparities in the regional dissemination of services. Additionally, with the government as the managing entity, people’s trust is fostered in personal data management, thus, the acceptability of use of personal information increases. However, this arrangement could also be viewed as a governmental tool for surveying citizens, potentially leading to opposition.

Further, it is significant to discuss issues, which might arise if “Osekkai” DPFs are operated by for-profit companies instead of the government. In addition to concerns about the reliability of user data management and utilization, there is an added risk of favoring specific intervention service providers who pay more, potentially directing users toward specific intervention services that they may not otherwise desire. In such cases, users may be induced to make purchase decisions for unwanted intervention services, necessitating governance mechanisms that serve as checks and balances. However, as mentioned previously, considering the unique characteristics of the Japanese healthcare market, where the possibility for individual service providers to connect is smaller, dominance by a mega DPF is highly unlikely. Thus, it is possible that dominant “Osekkai” DPFs may only emerge in a different form to the current one.

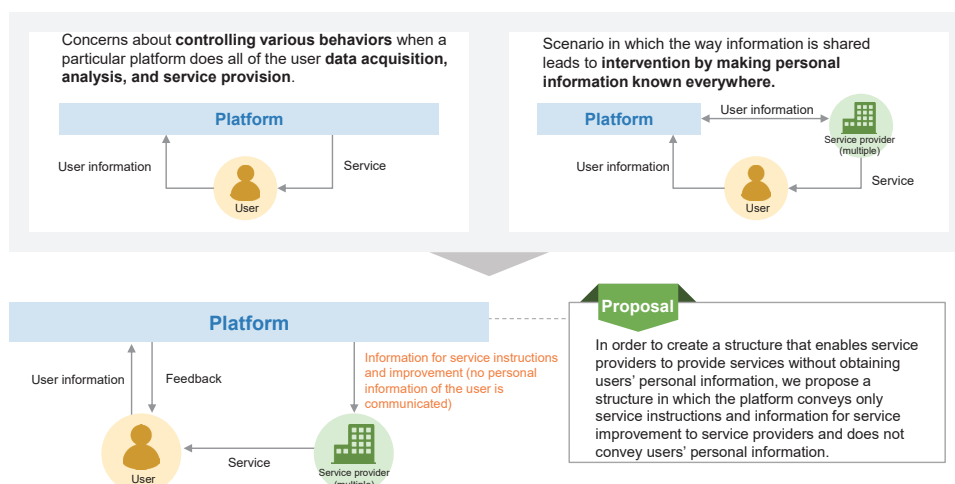
Alternatively, we propose a structure that connects users with multiple service providers offering health and behavior monitoring services (such as wearable-device-based heart rate and step tracking) and interven-

16 Kobe-shi. (2022, October 14). MY CONDITION KOBE no un’ei shūryō oyobi min’ei sabisu to shite no kongo no apuri sabisu no keizoku ni tsuite [About the termination of MY CONDITION KOBE operation and the continuation of the app service as a private service]. Kobe City website. Accessed November 30, 2023. <https://www.city.kobe.lg.jp/a15830/kenko/phr/580610427145.html>

tion services through a matching system. Initially, we assume that the DPF entity would directly monitor individuals' health and behavior. However, in planning pilot experiments for the "Osekkai" DPF with multiple health monitoring service providers, it is ascertained that these providers are hesitant to share data collected with their own devices, even with the "Osekkai" DPF, despite the potential business expansion from being connected to the DPF. Their reluctance likely stems from the need to obtain user consent for secondary data use and their desire to monopolize the data's technological value. Consequently, we explored methods by which health-monitoring service providers can utilize data acquired independently without sharing it externally. This led us to propose a structure where only the "meaning of health status," such as whether it warrants attention or requires urgent intervention, is provided to the platform.

Furthermore, if individual intervention service providers are to obtain detailed health status information from users and offer intervention services, the greater the number of service providers involved, the greater is the risk of user information dissemination into the wider world (as depicted in the upper right of Figure 2). In this scenario, numerous entities can access sensitive personal health data and users can be subjected to unsolicited interventions in various locations, including their homes, offices, and public spaces. Therefore, in addition to the "meaning of health status" framework, we propose a structure wherein the platform conveys service instructions and information for service improvement to intervention service providers without disclosing users' personal information (as illustrated in the lower part of Figure 2). This ensures that only the action instructions for providing service X to User A at a particular moment are conveyed to the intervention service provider by the DPF. To illustrate, in an office scenario, if User A is experiencing depressive symptoms owing to overwork, the system would only instruct the supervisor to urgently review the distribution of tasks without disclosing individual's physical and mental health status. Thus, in our proposal, we position the DPF at the center of the system and use contextually interpreted information to appropriately segregate users and service providers. Currently, we are collaborating with numerous universities and companies to conduct proof-of-concept experiments to verify the feasibility of this proposal.

**Figure 2: Proposal for a Mechanism to Receive Intervention Services without Informing Service Providers of Personal Information**



Although, the proposed structure mitigated the diffusion of personal information and domination by the DPF, ethical challenges persisted. The fundamental premise of our proposed “Osekkai” service is that the decision to use the intervention service is autonomous and based on users’ own free will. Nevertheless, if interventions are conducted in a manner unbeknownst to the individual, can they still be considered a voluntary and autonomous choice? Moreover, even if all intervention histories are made visible, the genuinity of the autonomy guaranteed is questionable because many users may not thoroughly read the terms of use and provide their full consent. Furthermore, the design of websites that use cognitive biases to induce consent, referred to as dark patterns<sup>17</sup>, may lead individuals to believe that they are making autonomous decisions when, in reality their decisions are induced, potentially infringing on their unconscious right to self-determination. It is crucial to avoid assuming that any form of intervention is automatically permissible simply because it is user-decided; maintaining user autonomy is essential in all aspects of DPF operation, especially because various decisions may be made discreetly, unbeknownst to the user.

Furthermore, suppose that a municipality or government offers this program as part of its public services. In this case, concerns may arise about the government’s legitimacy to intervene in the actions of individuals, even though the service is used voluntarily. Thus, achieving societal consensus and trust is crucial for implementing such services at the community level. Therefore, in a future where “Osekkai” services become a reality on DPFs, it is important to proactively address and analyze the potential ethical challenges that may arise.

This article is based on a working paper<sup>18</sup> created by the members of the Keio University Global Research Institute “Research Project Keio 2040 (Longevity): Extending Healthy Life Expectancy Project”, including Toru Kimura, Shingo Kawai, Maki Fukuhara, Tomiya Kimura, Yoshinori Washitani, Mitsuru Ide, Mayu Takaramoto, Kayoko Narazaki, Haruka Suzuki, and Tetsuya Toma.

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17 Mathur A, Acar G, Friedman M, Lucherini E, Mayer J, Chetty M, Narayanan A. Dark Patterns at Scale: Findings from a Crawl of 11K Shopping Websites. *Proc. ACM Hum.-Comput. Interact.*, Vol. 3, No. CSCW, Article 81. 2019.

18 Research Project Keio 2040, the Extending Healthy Life Expectancy Project Team. (2023) p.1-53. (previously mentioned material)





## **Chapter 2**

# **CAN DIGITAL PLATFORM BE A GUARDIAN OF OUR HEALTH?**



# IS THE FUTURE OF DIGITAL PLATFORMS A BRIGHT ONE?

: Proposals for open innovation and governance

Toshio Miyata<sup>\*</sup>

In the country of Japan, which is experiencing a rapidly aging population that is unprecedented in the world, people are questioning whether the healthy life expectancy can be extended further. As this population decreases due to aging and a low birth rate, the balance between the funding source of social security and the percentage of the population that is of working age has been disrupted (Figure 1), and the sustainability of the nation's unparalleled universal healthcare system is now uncertain.

At the start of the Reiwa era from 2019, the healthy life expectancy, which is the period in which an individual can live with no restrictions on their daily life, was estimated to be 8.73 years shorter than the average lifespan for men and 12.06 years shorter for women.<sup>1</sup> There are now calls to close this gap in order to make the universal healthcare system more sustainable and to create a society where people can live healthy lives for as long as possible. One innovative solution that has been gaining attention for tackling this is the idea of healthcare services that arise from the creation of database platforms and act as a sort of one-stop shop for using biometric and other data to prevent, treat, and follow up on illnesses. But a variety of problems have been identified when it comes to using this sort of data, and progress has been slow. Japan in particular is lagging behind the rest of the world, and a speedy solution is needed.

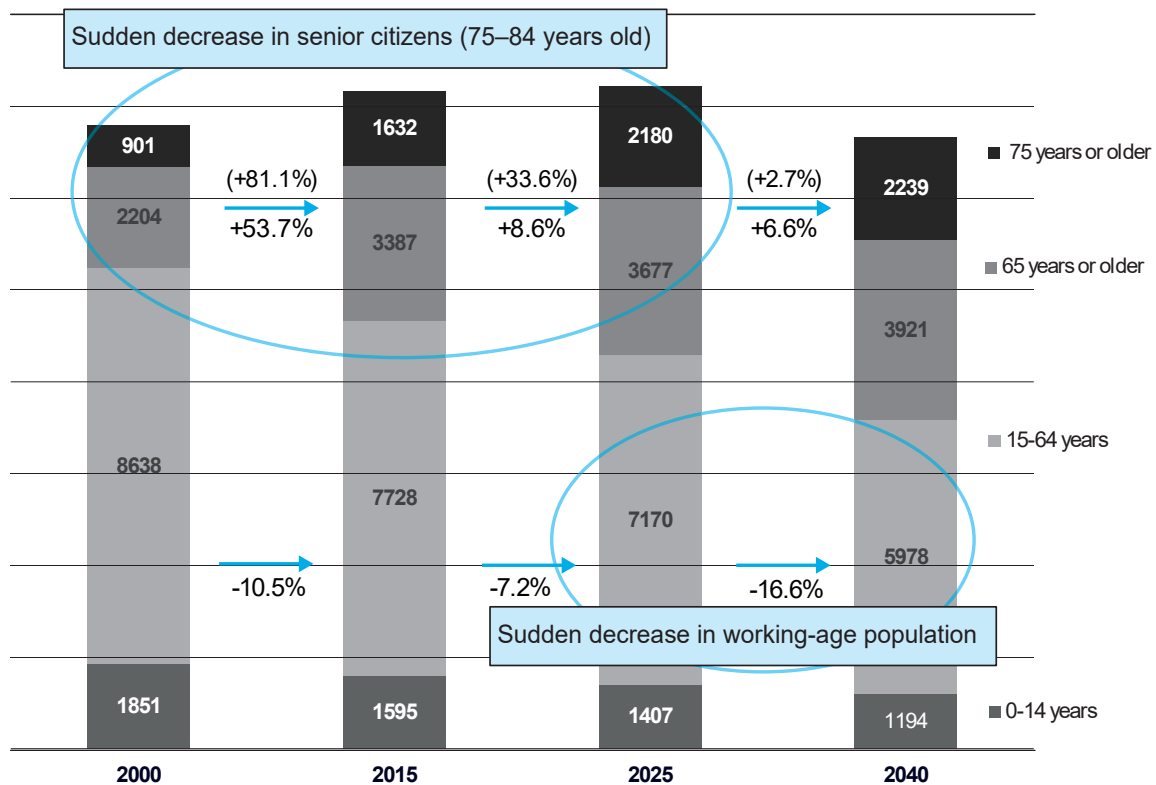
Self-care and self-medication are two important points when considering how to extend healthy life expectancy. The World Health Organization (WHO) defines self-medication as “taking charge of one's own health needs and treating light physical ailments by oneself.” Self-care is a broad concept that includes establishing and maintaining a healthy body to prevent illness, recognizing the significance of one's own behavior, and many other areas such as sanitation, nutrition, lifestyle, environment, socioeconomics, and self-medication.

But from the perspective of promoting and maintaining the health of ordinary citizens, self-medication and self-care aren't making much progress in Japan, despite increased interest in self-care and more oppor-

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<sup>1</sup> See the MHLW Grants System “Healthy life expectancy: Analyzing the causes of regional disparities and examining the effectiveness of health-promotion activities” (study representative: Ichiro Tsuji ).

**Figure 1: Changes in population structure through 2040 <sup>2</sup>**

(Population beyond 2025 relies on statistical projections)

tunities for it. For the average citizen, deciding when to go to the doctor and when to practice self-care or self-medication is difficult, and in general, the free access to universal healthcare makes people quick to head to the clinic. The Japanese government has implemented a number of policies, such as promoting a switch to over-the-counter (hereafter “OTC”) medicine, encouraging people to have a family pharmacist by establishing an official system for “health-support pharmacists,” and creating tax regulations for self-medication (a deduction for medical expenses was added in 2017 to promote self-medication). Nevertheless, many people currently utilize medical facilities even for minor illnesses.

In addition, the risk of developing cancer is said to drop by 43% for men and 37% for women if they simply adopt the five healthy habits of assessing their diet, maintaining a suitable body weight, abstaining from smoking, reducing alcohol consumption, and exercising. Considering that preserving and improving the health of employees is an investment that provides future benefits to companies, the Ministry of Economy, Trade, and Industry (hereafter “METI”) is now promoting a strong implementation of “health management” that approaches health from an operational perspective. This means that we cannot simply focus on the development of genome therapies and other new treatments—we must also promote digital transformation (DX) and the digitization of daily personal data related to sleep patterns,

<sup>2</sup> Created by the author from the MHLW’s “7th Feedback Session for the Eighth Healthcare Plan (March 4, 2022) — Document 1, Eighth Plan: Regarding Community-Based Medicine etc.” (<https://www.mhlw.go.jp/content/10800000/000911302.pdf>). Source: Ministry of Internal Affairs and Communication’s “National Census” and “Population Estimates”; National Institute of Population and Social-Security Research’s “Future Population Estimates for Japan — 2017”.

stress levels, diet, exercise, and other areas into a public health record (PHR) so that the information can be visualized and used to facilitate the modification of behavior. As Japan faces its future as the world's top super-aged society, it will need to draw on some of the models seen in other countries and industrialize its medical services in order to extend the healthy life expectancy while simultaneously generating new economic strength.

## 1 Specific actions

### (1) Public-private collaboration initiatives

In 2015, three stakeholders—the business community, the medical industry, and municipal governments—launched the *Nippon Kenko Kaigi* with the goal of extending the healthy life expectancy and making medical costs more reasonable. This organization was formed in conjunction with the Ministry of Health, Labor, and Welfare (hereafter “MHLW”) and the METI for the purpose of promoting private initiatives related to advanced disease prevention and healthy living, led by some of the top people in business, medicine, and local government. I have also served as an advisor on the Council's action committee. The Japan Health Council has also adopted the “Declaration for Building Healthy Communities and Workplaces 2020” (2015), which consists of eight statements that include points about health management.

#### Declaration for Building Healthy Communities and Workplaces 2020 (2015)

Statement 1: Get at least 800 municipalities to promote incentives for disease prevention and healthy living to citizens.

Statement 2: Get 800 municipalities to implement programs for preventing the worsening of lifestyle diseases by coordinating with family doctors etc., then form two wide-area alliances. When doing so, aim to work with the Diabetes Prevention Council etc.

Statement 3: To prevent diseases and enhance people's health, have the insurance boards from all 47 prefectures implement activities related to prevention, in coordination with communities and workplaces.

Statement 4: Get at least 500 companies (corporations) to implement health-management programs in conjunction with health-insurance associations and other insurer groups.

Statement 5: Get at least 10,000 companies to implement health announcements etc. by obtaining the support of the Japan Health Insurance Association, the Chamber of Commerce and Industry, etc.

Statement 6: Get 100% of insurers to provide their customers with their own medical and health data in a format that is easy to understand. When doing so, aim to fully utilize information and communication technologies (ICT).

Statement 7: To improve the quantity and quality of businesses that offer planning and implementation



services for disease prevention and healthy living, build a framework for evaluation and certification then get at least 100 healthcare companies to achieve certain standards established through insurer recommendations etc.

Statement 8: Work to improve the usage of generic medications by getting all insurers to recommend them and requiring the government to ensure their quality and stable supply.

Statement 2 is about increasing the number of municipalities with initiatives for preventing the worsening of lifestyle diseases. If we can extract the medical and prescription data held by insurers for residents who won't visit the doctor even though they received a suspicious diagnosis—or those who quit going to treatment partway through—then use it to encourage them to visit the doctor and control the illness before it gets worse, we will be able to reduce the risk of it worsening, avoid the cost of advanced medical procedures, and extend the healthy life expectancy.

**Figure 2: Declaration of Action 2025: Five Initiatives for Building Health (Outline)**

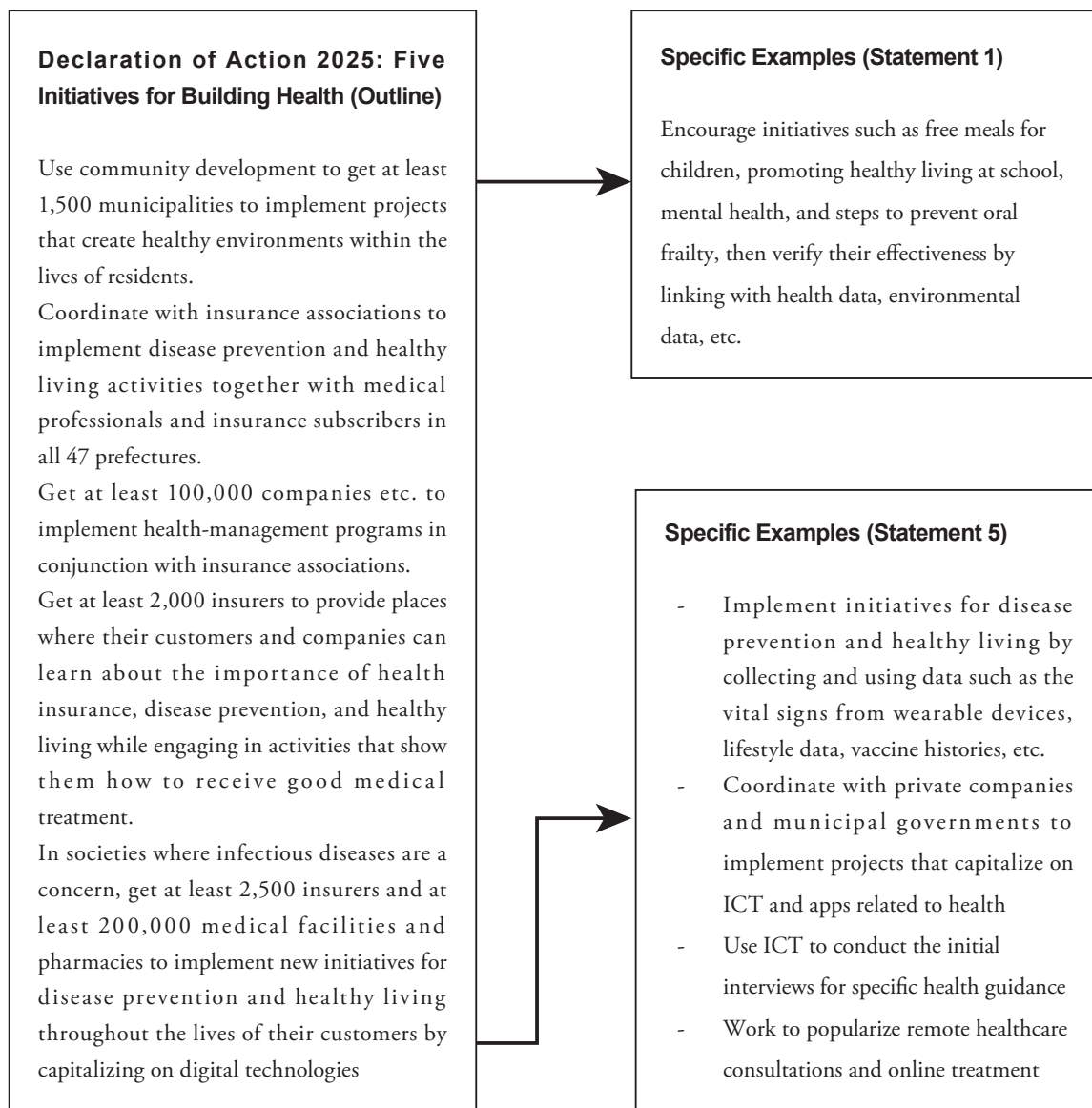


Figure 3: Overview of “Ken Compass” Apps <sup>3</sup>



#### “Ken Compass”

Release Date: June 26, 2017

Available To: Everyone

Language: Japanese

Supported OS: Android / iOS

Price: Free

In addition, five goals for 2025 have been added; Statement 1 promotes the linking of health data with the living-environment data of municipalities, while Statement 5 advances disease prevention and healthy living by utilizing data obtained from wearable devices, lifestyle data, vaccination information, etc. (Figure 2).

## (2) Self-medication Apps.

In response to the sluggish adoption of self-care and self-medication in Japan, the author released a self-medication support app called “Ken Compass” in 2017 (Figure 3).

Medical associations are facing significant challenges. They are telling people to visit their family doctors if they feel sick, but the sheer volume of data available online now makes it difficult to find the right information, and many people fall victim to shady health websites and lose large sums of money. Within this context, Ken Compass is a self-medication app created under the guidance of physicians and pharmacists while carefully coordinating with government agencies and medical associations. Although Japan lags significantly in this field compared to other countries, Ken Compass did see an increase in users during the COVID-19 pandemic, so more residents now have access to accurate information. Self-medication apps face a few challenges:

<sup>3</sup> Source: Ken Compass (<https://kencompass.co.jp/app-ip/>, last access in November 2024).

- They must incorporate as much expert knowledge of medicine and treatment as possible, but they cannot be designed in a way that qualifies as the act of medical treatment itself (doing so would violate the Medical Practitioners' Act and the Pharmaceuticals and Devices Act).
- They must be represented in advertising etc. in a way that does not violate the Pharmaceuticals and Devices Act, the Health Promotion Act, the Act against Unjustifiable Premiums and Misleading Representations, or other legislation.

Ken Compass solves these challenges. The COVID-19 pandemic also led to the creation of many different healthcare services, and big changes have gradually taken place in Japan's digital healthcare field.

### (3) Online medicine

The author have also worked to popularize the online treatment process. Online treatment is when a patient and doctor in different locations connect through the video-conferencing features of a smartphone or PC to engage in real-time healthcare. Known in the past as “remote healthcare,” online treatment was previously only permissible in cases where it was required for people on remote islands or in other distant locales to receive medical care.

But in 2015, the MHLW effectively lifted the ban with a notice declaring that online treatment was “not restricted to remote islands or backcountry areas,” and health insurers were also allowing follow-up examinations to be conducted via telephone. Then, in 2018, a revision to the system for medical-service payments officially made online treatment eligible for insurance coverage. Except for special cases like smoking-cessation clinics and prescriptions for emergency contraceptives, online treatment has certain restrictions—for instance, the initial examination must typically be done in person. A 2019 survey conducted by the MHLW thus found that only 24.3% of hospitals and 16.1% of clinics were offering online treatment. However, these restrictions were greatly relaxed due to the coronavirus pandemic, making online treatment available even for the initial examination, which was previously restricted to the follow-up exams of patients with stable chronic illnesses. Demand for online treatment continued to increase as the nation scrambled to stave off the COVID-19 infection and prevent the collapse of its healthcare system due to hospital-acquired infections. On April 10, 2020, the MHLW issued a notice that approved online treatment for initial examinations, including those involving people with no previous history of medical exams. The requirement for face-to-face visits with drugstore pharmacists was also removed, allowing medical facilities to submit prescriptions to pharmacies via fax or similar methods. And after a patient has received usage instructions from a pharmacist online, their prescriptions can now be delivered to their home by the pharmacy.

During an initial online examination, taking the time to gather data such as the patient's prior medical history and prescription usage is especially important, and the question of how to acquire such patient data is even more so. In our experience, however, initial online exams are hindered by the difficulties in obtaining a patient's prescription history and the results of blood tests and health check-ups conducted at other facilities. We may be able to streamline the initial online exam process by utilizing the national ID number (“My

Number”) system to extract this sort of data. But there are several challenges, including the fact that pharmacies are closed in the middle of the night; the question of how to ensure communication between medical facilities when a patient’s symptoms worsen after they receive online treatment; and issues with people impersonating patients, reselling their prescriptions, or engaging in cyberattacks. Solving these will require experts from not only medical science but many other fields to coordinate in establishing some ground rules.

Moving forward, we expect that new technologies in sensing, monitoring, and artificial intelligence will enable the creation of new healthcare platforms that hybridize with in-person medical treatment. If the industry moves to ultra-high-resolution 8K images, then we may even be able to treat dermatological issues, which is currently not possible due to the limitations in image technology. Right now, doctors can’t typically listen to the chests of their patients with a stethoscope during online treatment sessions; but if they could easily listen to heartbeats in real time, the quality of such online treatment would also improve. And the global race to develop such technologies is intensifying.

#### **(4) Digital health innovations using data**

The Tokyo Metropolitan Government is conducting a proof-of-concept trial known as the Mobile ICU/ER Project that installs equipment for performing electrocardiograms, ultrasounds, blood analyses, etc. within ambulances. This equipment is used to measure the vitals of patients during transport then transmitted in real time to the hospital so that treatment can begin immediately upon arrival. Selected by the government of Tokyo for its “Project Proposal System for University Researchers,” the Advanced Hospital Transport System Project (2019–2021) utilized mobile ICU/ERs to construct an advanced transport system led by a medical team for emergency patients who could not be cared for at their current medical facilities as well as those whose condition had worsened during their hospitalization.

This project was a collaboration between not only government and academia but also various private companies such as Toyota Customizing & Development, Sysmex Corporation, GE HealthCare, and Nihon Kohden. Industries, universities, and government agencies worked in tandem to advance digital transformation (DX) by linking with data in the medical devices aboard ambulances, and the effort has conceivably contributed to solving some of the challenges faced by Tokyo’s medical and emergency healthcare systems. The Tokyo Metropolitan Government is now considering how to apply the results of this project to a full-scale deployment in the future.

There are many other initiatives found throughout the industrial world. For example, there are apps that help women manage their periods by entering information about their pre-menstrual syndrome (PMS) symptoms and menstruation cycles. This allows them to manage data about their daily condition as a PHR. Such apps have become quite popular among young women, and future integration of the data accumulated by private companies with the data held by entities such as insurers and medical institutions should lead to the creation of new “FemTech” services for them.

In the future, PHRs will connect the data of hospitals and insurers to municipalities and businesses, which could create new evidence for the effectiveness of yoga, for a supplement that lacks clinical validation, etc. As for the government, the MHLW will have to coordinate with the METI as well as the Digital Agency

in support of this transition. In terms of the secondary usage of data, we must eliminate the need for consent during acquisition and revise the restrictions on its usage (export regulations).

And on the device side, we can do like Apple watch did when they created the new word “blood oxygen wellness” to replace “blood oxygen saturation,” thus bypassing the regulations in the Japanese Pharmaceuticals and Devices Act and allowing the average consumer to use the device as a monitoring (non-medical) device. As cases like this increase in number, people are focused on the expansion of healthcare services that do not involve medical devices. However, ensuring the effectiveness and safety of services that bypass medical device approval remains a challenge.

We also need to use real-world data like the results of health check-ups, prescription information, and DPC data, and we need to change electronic health records (EHRs) in a way that advances clinical epidemiology. The government is also working on these areas. And it’s not just the big hospitals—we must make strides in connecting the small and medium clinics and infirmaries so that their medical data can be used, too. However, the cost of sharing EHRs with external entities has been a significant bottleneck to progress. EHRs aren’t being used much at all in infirmaries, either, so digitizing that data is another big hurdle. With EHRs, the government doesn’t regulate the pricing for payments like it does for drugs and medical devices, so costs are currently one thing that is pressuring the managers at medical facilities. This reveals that EHRs need to be reformed as soon as possible.

What we need are electronic health records that private clinicians and smaller facilities can download free of charge and use immediately. Building an infrastructure that facilitates this will allow us to collect post-release clinical data from companies that make drugs or medical devices while utilizing real-world data to control development costs and build an ecosystem. In fact, the MHLW is trying to encourage the development of such EHRs. Simultaneously advancing DX for medical payments should also allow for the creation of feedback regarding everything from the treatment outcome to the payment process.

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## 2 Conclusion

A streamlined production system for comprehensive healthcare services is hindering advancement in Japan. Some of the challenges are the lack of a hierarchical framework for the country’s government ministries and municipalities as well as the insufficient links between the various departments and subsidiaries of major corporations. It’s easy to make a specialized service for a limited domain, but much more difficult to make a broader service that connects laterally. Based on my own experience as an administrative official, I feel that I’m probably biased in my impression that creating something new which overcomes the regulatory hurdles and organizational obstacles faced in Japan would be a tremendous task. Even Japan’s university hospitals formerly emphasized fundamental research more than clinical studies, and there was a sense that the latter simply couldn’t be done in Japan. But the tide is now turning, and clinical studies are starting to be seen as important. As the world changes, so will Japan. We shouldn’t expect it to remain the same. Rather, we must involve the various parties and form a strong leadership to

propel the needed changes forward.

So, what should digital healthcare platforms look like? There are two ways of approaching the question: starting on the clinical side then expanding to the non-clinical side, and vice versa. The platforms should be developed by combining both approaches. In Japan, hospitals and clinics are non-profit organizations. To create new platforms, then, it is imperative that we not only enact regulatory reform but also reexamine our legal frameworks rooted in historical and societal norms as we plan for increased collaboration between for-profit and non-profit entities and work to achieve a solid common ground between the two. And as the young physicians with innovative mindsets continue to flourish within the world of medicine, cooperation between different industries such as banking and private insurance should continue to grow. But activating this sort of open innovation will require even more leadership training within the field of healthcare. It's not about profit versus non-profit—the critical thing is to create designs that incorporate all the various stakeholders in a cyclical fashion and educate people at the same time.

Also, the popularization of self-care apps like Ken Compass as well as online treatment through medical facilities will change the specific responsibilities of stakeholders as healthcare services escape the confines of hospitals and enter our everyday lives. More discussion with legal experts is needed regarding the future state of corporate governance, since the relative importance of manufacturers will increase when managing software programs that incorporate artificial intelligence. For example, healthcare apps that use generative AI might convince patients to stop visiting their doctors and ignore their illnesses. So, the fact that medical services and the responsibility for them will continue to expand beyond the boundaries of medical facilities is a significant challenge for the administrators of such institutions. We need to properly divide the responsibilities among the private companies within the healthcare space while developing a framework that incorporates things like A.I. and online treatment to not only make things more efficient but also involve doctors in the entire process. Japan and the rest of the world must undergo a paradigm shift from treatment that a doctor independently selects to a more patient-focused system as the relationship between physicians and patients evolves. We should monitor how society reacts to these changes as we engage in open dialogue and encourage cooperation with an eye toward diversity and inclusion.

We may now be in an era that requires stricter governance of for-profit medical practitioners. As with the Act on Ensuring the Safety of Regenerative Medicine, legislation related to online healthcare could be required moving forward. If we don't come up with suitable penalties for the for-profit physicians treating cases that aren't covered by insurance, we won't be able to control medical costs. Therefore, more discussion between industry, government, and academia is needed to avoid stagnated growth in the burgeoning field of healthcare. The health of some individuals has even been damaged by drugs prescribed during online exams for the purpose of weight loss. If we can build e-health DPFs that drive innovation in medicine, we can stabilize the sustainability of Japan's universal healthcare system, create new industries, and hopefully contribute to the development of universal health coverage throughout the world.



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# UTILIZING AND PROTECTING HEALTH DATA ON A MEDICAL DPF

Kyoichi Iida<sup>\*</sup>

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## 1 What is a medical DPF?

Recently, a variety of digital platforms (hereinafter referred to as “DPF(s)”) have emerged in numerous fields. Particularly influential among these are Google and the other GAFAM companies that have developed DPF businesses in the form of platforms that link users and merchants while providing advertising.

In the past few years, several DPFs have appeared in the medical field as well. There is a high probability that the influence of such medical DPFs will continue to expand with the advancement of digital transformation (DX), making people’s lives better through the permeation of telecommunications technology.

Yet there is no clear definition of what a DPF is. The term “medical DPF” has been defined as both a platform that provides “methods for medical diagnosis and treatment over the Internet, including making reservations, providing medical histories, receiving examinations and prescriptions, and paying for services via video and text chats on smartphone and PC”<sup>1</sup> and “lead to optimal medical solutions”<sup>2</sup> as a foundational element involving diverse players with diverse goals. However, there is no definitive agreement.

In this series, the nation is often likened to the Leviathan, while the DPF is compared to the Behemoth<sup>3</sup>. But as we will see in this article, which investigates some of the challenges and solutions regarding the protection, usage, and application of medical data (personal information related to one’s health), medical DPFs are generally seen as “things that enable the distribution of medical data.”

Medical DPFs can be categorized as public or private. Some examples of the former are listed in Table 1, while examples of the latter are listed in Table 2.

In addition, large DPFs continue to enter<sup>4</sup> the medical markets overseas and expand their business.

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<sup>1</sup> Naoko Takato & Akira Mukai. “Power Struggle Among Healthcare Platforms In 2030 — Business Providing Infrastructure That Connects Vendors And Users.” *Knowledge Creation and Integration, March 2022 Edition* (Nomura Research Institute, 2022), p.17.

<sup>2</sup> Tatsuro Yamamoto. “Investigating The Formation Of Digital Platforms In The Pharmaceutical And Medical-Device Industries.” *Ikiren Journal No. 113* (Japan Federation of Medical Devices Associations, 2021), p.57.

<sup>3</sup> Tatsuhiko Yamamoto. “Digital Platforms In Modern Sovereign Nations — Leviathan And Behemoth.” Edited by Hajime Yamamoto. *Basic Constitutional Theory* (Shinzansha Publisher, 2022), pp.147-181.

<sup>4</sup> Allana Akhtar. “Here’s where tech giants like Microsoft and Amazon stand in their race to revolutionize healthcare” *Business Insider*, April 20, 2021 (<https://www.businessinsider.jp/post-233028>, last accessed on January 8, 2024).

**Table 1**

National Database of Health Insurance Claims and Specific Health Checkups of Japan (NDB)	Stores data related to health-insurance claim receipts (which are provided monthly to insured individuals by medical facilities), specific health instructions, etc.
Nursing Insurance Database	Collects electronic data related to nursing-insurance claim receipts then anonymizes and stores it
Japanese National Cancer Database	Collects, analyzes, and manages data on every individual in Japan who has been diagnosed with cancer
Designated Intractable Disease Database	Consolidates the clinic notes and opinions of physicians etc.
Designated Chronic Children's Diseases Database	Consolidates the clinic notes and opinions of physicians etc.
Nationwide Healthcare Information Platform	Aims to provide superior healthcare by expanding the network of systems such as online qualification-verification services (using My Number as insurance cards) and consolidating all the medical data for a patient (including health-insurance claim receipts etc.) into a single DPF where it can be stored and managed; this idea was proposed in May 2022 by Medical DX Reiwa Vision 2030* as the backbone of future medical DX projects

\* Ministry of Health, Labour, and Welfare Website. "About DX In Medical Treatment." (<https://www.mhlw.go.jp/content/10808000/000992373.pdf>).

**Table 2**

"CLINICS" (Medley, Inc.)	Online treatment and medication guidance app service
"LINE DOCTOR" (LINE Healthcare Corporation)	Online treatment service
"RIMOLEA" (Cancer Philosophical Outpatient Clinic)	Online treatment service
"KEN COMPASU" (Medical Compass, Inc.)	Online treatment service and self-care app

The purpose of healthcare is considered to be "providing medical treatment to patients and maintaining or improving the health of all people (including the prevention of illness)."<sup>5</sup> Since medical DPFs will distribute the sensitive medical information of individuals and continue to exert more influence within our societies, they may become so large that they begin to infringe upon people's rights. But they may also be responsible for saving people. In that case, it will be essential to not only prevent medical DPFs from violating the rights of people, but also to use regulations to control the expansion of the scope within which medical data is utilized and applied.

This article therefore aims to address two of the current issues related to the protection and usage of medical data: (1) the problems that arise due to the nature of a medical DPF itself, and (2) the fact that medical DPFs will allow medical data to be utilized under the primary purpose of use. First, in section 2, we will consider the issues with a medical DPF handling medical data. Section 3 then examines the current situation

<sup>5</sup> Japan Medical Association. "Notes On Medical Ethics — The Purpose Of Medicine." (<https://www.med.or.jp/nichinews/n120320u.html>).

with the Act on the Protection of Personal Information, which governs the protection, usage, and application of medical data by a DPF, as well as the Next-Generation Medical Infrastructure Act. Finally, section 4 discusses some of the remaining challenges and their potential solutions.

## 2 Challenges of a medical DPF

### (1) Protecting medical data

The medical data generated when we are diagnosed and treated at clinics and other medical facilities (including online consultations) is extremely sensitive and private information that could identify our illnesses and thus lead to prejudice or discrimination. Considering the frequent occurrence of massive leaks of personal data in recent years, many of us have probably worried about whether our diagnosis and treatment data is being used outside its purpose of use or provided to a third party without permission. It is therefore necessary to establish regulations that prescribe certain protections and restrictions regarding the use of medical data outside the scope of its purpose of use or providing it to a third party without the owner's consent.

### (2) Utilizing and applying medical data

Meanwhile, as information technology and artificial intelligence have advanced, many companies have begun offering services that allow for the better utilization and application of data. In the world of healthcare, the use of data via medical databases, medical DPFs such as the Japanese National Cancer Registry Database, is expected to result in a number of new possibilities, including higher-quality medical treatment, the discovery of unknown side effects, the development of new drugs and other advances in medical science, the generation of new industries, and the formation of a society that enjoys a long healthy life expectancy. Moreover, the nation's birth rate is declining, and its population is getting older—plus, there is an urgent need to rapidly construct systems before the next biological danger such as the unprecedented global pandemic we just experienced. And in a country like Japan that suffers from frequent natural disasters such as earthquakes and tsunamis, the usage and application of medical data should be permitted over a wide range to achieve the goal of healthcare, as long as that data is afforded a certain level of protection and restriction. In concrete terms, we need regulations supporting application and usage that allows the data's owner to directly benefit and is also beneficial to the overall future of humanity (such as through medical research).

### (3) Specific challenges

Let's look at some specific problems with medical DPFs from the viewpoint of protecting and utilizing medical data.

#### (A) Problems with the nature of medical DPFs (protectio)

In 2024, there was an incident at a university hospital in Osaka in which the names, patient IDs, ages, diagnoses, and treatment information of 2,003 patients participating in a research project were removed from the facility without permission by one of the doctors. In the same year, the names, patient IDs, pregnancy

progress, ultrasound images, and fetal vitals (height and weight) for eight individuals who signed up for an ultrasound video service were leaked due to the machine being operated incorrectly<sup>6</sup>. In 2023, a former employee at a clinic in Nagano Prefecture illegally removed the names, addresses, birth dates, treatment information, and other data of 3,137 dialysis patients and their family members (dialysis is a procedure in which waste products and excess water are artificially removed from the blood to clean it, replacing the function of the kidneys)<sup>7</sup>. While these incidents were limited to individual medical facilities, they clearly suggest that centralizing medical data within a DPF will create the risk for widespread damage if that data is stolen or leaked. Thus, protecting the medical data they contain is the primary challenge faced by medical DPFs. A study conducted by the European Union Agency for Cybersecurity regarding cyber-incidents that occurred between January 2021 and March 2023 found that 53% of the incidents during that period involved medical providers, and 43% involved the theft or loss of data<sup>8</sup>.

In 2010, there was a court case concerning the unauthorized provision of a patient's medical data to a third party by their family doctor<sup>9</sup>. The court ruled that explaining MRI scan results and communicating the opinion that the patient's spinal disc herniation was age-related to the employer of the patient without the patient's consent was a breach of medical confidentiality. The court therefore ordered the doctor to pay ¥1 million in damages. In its ruling, the court noted that physicians "must be careful to once again verify with the patient the scope of their consent" when asked to disclose their medical information to a third party<sup>10</sup>. If the idea is that medical data will be shared among multiple medical DPFs (databases etc.), then the challenge is to clearly explain to them that the data will be shared when asking for their consent to acquire said data.

This court case involved the unauthorized provision of medical data to a third party. But in reality, the patient's consent is currently regarded as highly important in clinical settings. In practice, data is almost never used without the owner's consent. We can only speculate about the reasons for this, but perhaps it is due to the current societal trend that places absolute importance on consent, or maybe the concept of informed consent (fully explaining the details of the illness, testing, treatment, prescriptions, etc. to the patient so that they understand them well enough to provide their voluntary consent prior to starting treatment) has been established among medical practitioners, creating a deep-seated reluctance to use data without the consent of the patient or their family. People generally recognize the need to get the patient's consent during treatment, and that the proxy consent or implied consent of a family member is often used in place of that consent in order to use the patient's data<sup>11</sup>. However, some have noted that equivocating actual consent and implied

6 [https://www.med.kindai.ac.jp/notice/2024\\_0513\\_6086.html](https://www.med.kindai.ac.jp/notice/2024_0513_6086.html) Last accessed on June 11, 2024.

7 Takunori Yasuda. "Personal Data Of 3,137 Patients Leaked — Did A Former Employee Remove It From The Hospital?" *Asahi Shimbun Digital*, March 30, 2023. (<https://digital.asahi.com/articles/ASR3Y7FQLR3YUOOB001.html>, last accessed on June 11, 2024).

8 ENISA THREAT LANDSCAPE: HEALTH SECTOR, Masahito Yamaga. "ENISA Releases Report On Ransomware, Data Theft, And Other Serious Cyberthreats Within EU Healthcare." *Internet Watch*, August 3, 2023. (<https://internet.watch.impress.co.jp/docs/column/security/1520495.html>, last accessed on January 27, 2024).

9 Decision by the Saitama District Court, Kawagoe Branch on March 4, 2010 (Judicial Case Report 2083, p.112).

10 Satoru Makita. "Disclosing Medical Data To An Employer Without The Patient's Consent Is Illegal." *Nikkei Medical*, March 22, 2017. (<https://medical.nikkeibp.co.jp/leaf/mem/pub/series/dispute/201703/549457.html>, last accessed on June 11, 2024).

11 Shigeto Yonemura. "Problems With Medical Data Within The Legal System." *Journal Of Medical Law*, No. 34 (2019), p.121.

consent in this way reduces the idea of consent to a mere formality.

### (B) Challenges with the fact that medical DPFs allow medical data to be utilized under the primary purpose of use (utilization and application)

Imagine a scenario in which a patient that is currently receiving treatment travels far from home on a business trip. Suddenly, their condition worsens and they require emergency medical care. But the medical facilities in that area might not be able to obtain detailed medical information about this individual. If the patient is in possession of all their own medical data, then they could receive care at a local hospital or clinic, which would clearly be beneficial.

The usage and application of medical data is categorized as either (A) “primary usage,” in which the usage is for the purpose of directly administering treatment to the owner of the data; or (B) “secondary usage,” which involves usage that is not for the patient’s immediate benefit, such as case studies (disclosing clinical progress to one’s staff members to verify in detail whether the appropriate treatment strategy has been selected), statistical analyses of treatment, research, innovation, or policy-making. The challenge is to establish regulations not for frameworks involving the currently popular secondary usage of medical data (which has been identified as being potentially useful for healthcare and other purposes)<sup>12</sup> but rather those involving the primary usage of health data via a medical DPF for treatment that directly benefits the data’s owner.

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## 3 Medical DPF regulations

The Act on the Protection of Personal Information (hereinafter referred to as “APPI”) and the Next-Generation Medical Infrastructure Act<sup>13</sup> (hereinafter referred to as “NMIA”) are two laws that establish regulations related to the protection, use, and application of health data by a medical DPF. Let’s look at how these laws restrict medical DPFs with regard to the aforementioned challenges.

### (1) APPI

While the development of our digital society has expanded the application of personal data in a useful way, it has also created the need to preemptively prevent the infringement of various human rights due to the improper handling of that data. Therefore, this law aims to protect people’s rights and interests while considering the usefulness of their personal data. APPI applies to “businesses handling personal information” who use databases or their equivalent to systematically organize personal data so that specific individuals can be searched for using a computer. Most medical DPFs, including hospitals and other medical institutions, online healthcare providers, and database vendors, are businesses that handle personal information and therefore are subject to the jurisdiction of the APPI. Businesses that handle personal information are obligated to

<sup>12</sup> George Shishido. “Privacy And The Act on the Protection of Personal Information.” *Journal Of Medical Law*, No. 34 (2019), p.95.

<sup>13</sup> The “duty of confidentiality” that is required of physicians as well as the “ethical guidelines for medical and life-science research conducted on humans” are also regulations that cover the protection, use, and application of medical data; however, their discussion was omitted here due to space constraints.

establish safety-control measures for data.

Information such as medical records that include the notes of physicians; diagnostic information that healthcare professionals learn about the patient's physical status, pathology, treatment, etc. during the course of their medical care and prescription medication; the results of medical examinations; instructions regarding healthy living; and similar records are considered "sensitive personal information" that require special care. Acquiring sensitive personal information requires the owner's consent, defined as "the owner's declaration that they agree to their personal information being handled in accordance with the methods stated by the handling business."<sup>14</sup> The business is also required to specify the data's purpose of use prior to obtaining the owner's consent, notifying of or disclosing to that individual the specified purpose of use, unless otherwise announced in advance. This disclosure must be in a form that allows the owner to logically anticipate or imagine how their personal data will be used.

For medical institutions, the data's purpose of use is often published on their website that lists things like security guidelines and purpose of use information<sup>15</sup>. In the case of online healthcare services and other private-sector medical DPFs, it is referenced in their privacy policies (rules that govern how personal information as well as privacy in general are handled)<sup>16</sup>. As for public medical DPFs like the NDB mentioned earlier, separate policies that protect personal information may be established<sup>17</sup> with government guidelines. The owner's consent must also be separately obtained for any usage that exceeds the specified purpose of use, or when providing their data to a third party<sup>18</sup>. Violating these regulations makes the handling business subject to spot inspections by the Personal Information Protection Commission, which may order the business to make some changes. Non-compliance may result in up to one year of imprisonment or a fine of up to ¥1 million (corporations are subject to fines of up to ¥100 million).

There are a few different systems that facilitate the usage and application of personal information or data. (A) Anonymized systems can provide data to third parties without the owner's official consent because they process the data in a way that makes the owner unidentifiable (such as by deleting their name, address, and other personal information). For example, claim receipt data held by a society-managed health insurance organization could be anonymized then provided to a medical database provider (a medical DPF), who could then use it to provide data, consulting, and other services to such organizations as well as to research

<sup>14</sup> For example, individuals can consent by providing oral confirmation, submitting a document (including electronic formats), submitting an email, checking a confirmation box, clicking a button on a website, inputting their voice, tapping a touchscreen, activating a button or switch, etc.

<sup>15</sup> Keio University Hospital(<https://www.hosp.keio.ac.jp/about/privacy/policy.html>)

Kyorin University Hospital([https://www.kyorin-u.ac.jp/hospital/introduction/privacy\\_policy/](https://www.kyorin-u.ac.jp/hospital/introduction/privacy_policy/))

<sup>16</sup> LINE Healthcare Corporation, for example, has established privacy policies for its overall services, patients, and physicians.

• Overall Services ([https://terms2.line.me/LINE\\_Healthcare\\_common\\_Privacy?lang=ja](https://terms2.line.me/LINE_Healthcare_common_Privacy?lang=ja))

• Patients ([https://terms2.line.me/Telemedicine\\_LHC\\_Privacy?lang=ja](https://terms2.line.me/Telemedicine_LHC_Privacy?lang=ja))

• Physicians ([https://terms2.line.me/TelemedicineCMS\\_LHC\\_Privacy?lang=ja](https://terms2.line.me/TelemedicineCMS_LHC_Privacy?lang=ja))

<sup>17</sup> Prior to publishing research that used the NDB, the Ministry of Health, Labour, and Welfare that there are no cases involving rare diseases or other facts that could be used to identify specific individuals. This is done in accordance with its "Guidelines for Using Databases with Anonymized Health-Insurance Data etc." ([https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/kenkou\\_iryoku/iryohoken/reseputo/index.html](https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/kenkou_iryoku/iryohoken/reseputo/index.html)).

<sup>18</sup> And in cases where the government provides data to a third party within the scope of its purpose of use, consent is not required by APPI.



institutions, pharmaceutical companies, etc. Also, (B) if the business handling the personal information is an academic research institution such as a university, some regulations allow it to use the personal data of individuals outside the stated scope or to provide it to a third party without the owner's consent in certain situations—when it is needed for scholarly research, for instance, or when the third party is an institution for scholarly research that needs the data for an academic study. APPI also (C) recognizes the right of patients to request disclosure of their retained medical data.

## (2) NMIA

It has been pointed out that it is not realistic to expect many medical facilities and other organizations to use an anonymizing system due to the fact that the anonymization process remains as the responsibility of the facility itself, and in the case of outsourcing, it is difficult to determine whether the contractors have sufficient anonymization capabilities. This led to the creation of the NMIA on April 28, 2017.

This act aims to further contribute to the formation of a healthy and long-lived society through cutting-edge research and development as well as the creation of new industries related to health and medicine. It does this by establishing regulations for the handling of medical data and anonymized medical data. NMIA ensures the quality of anonymized data by allowing only companies that have been certified as possessing strong processing capabilities and data-security standards (safety-control measures) to create anonymized data. It also gives data owners or their surviving family members the right to request that their medical data<sup>19</sup> not be provided to certified companies by medical facilities if that data can be used to identify them. Employees, etc. of certified business operators, etc that illegally provide medical data through a database face up to two years of imprisonment or a fine of up to ¥1 million (or a fine of ¥100 million in the case of a corporation).

Anonymized medical data can now be widely utilized in Japan by drug companies, research institutions like universities, local governments, or anyone else as long as the data contributes to research and development within the field of medicine. A 2023 revision to NMIA also enables certified companies to connect to certain public medical DPFs like the NDB discussed earlier so that their anonymized medical data can be used. This made it possible to track data about a patient's death in some cases, which was difficult to do previously.

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## 4 Current issues and possible solutions

### (1) Problems with the nature of medical DPFs (protection)

#### (A) Issues

Regarding the issue of protecting medical data, both APPI and NMIA aim to control the unauthorized disclosure of such data by obligating companies to establish safety-control measures and stipulate sentencing

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<sup>19</sup> For example, the Center Hospital of the National Center for Global Health and Medicine has a disclosure on its website stating that it provides medical data in accordance with NMIA (<https://www.hosp.ncgm.go.jp/aboutus/zisedai/index.html>).

guidelines for imprisonment and fines. Due to the sensitivity of medical information and the potential for the expansion of medical DPFs, the development of further regulations remains an outstanding issue.

Although APPI requires that the purpose of use of medical data be disclosed to its owner, it is relatively flexible regarding how the owner's consent is obtained. As a result, the law in its current form does not sufficiently ensure that the owner understands precisely what they are consenting to. The development of further regulations remains an issue. Another problem with these current laws is that they do not satisfactorily solve the issue of placing too much importance on consent itself, and they turn the concept of consent into a mere formality. If these outcomes are to be avoided by removing the need for consent and establishing a framework for protecting the rights of the owners, further legislation for such a framework is still required.

### (B) Possible solutions

On the topic of regulations that curtail the unauthorized disclosure of medical data, the extremely sensitive nature of this sort of data means that repairing the damage may be impossible if it is accidentally leaked to a third party. One potential solution is therefore to enact legislation that creates certain technical requirements such as managing the data in a format that cannot be easily restored, which could prevent the spread of damage if it is leaked. And since the ethics of healthcare professionals etc. ultimately have a substantial effect on how medical data is handled, another solution could be to establish regulations for a system that increases awareness among such individuals that handle data in connection with a medical DPF.

As for the problems of trivializing consent and ensuring that the owners of data can fully understand what they are actually consenting to, further study and exploration are needed to determine the exact techniques and methods for obtaining proper consent. One possibility is to construct frameworks and accompanying regulations that categorize the different types of consent and repeatedly seek confirmation from the owner depending on the level of consent needed, as well as those that include personalized AI tools etc. within medical DPFs to help owners make their own decisions regarding their consent<sup>20</sup>. The Council for Promotion of Regulatory Reform,<sup>21</sup> on June 1, 2023, suggested allowing medical data to be used for the benefit of the public (secondary usage) without the owner's consent. These discussions were partly triggered by the fact that consent has been reduced to a formality as well as the adoption by the European Health Data Space<sup>22</sup> (EHDS; a framework for sharing health data within Europe) of mechanisms that work in lieu of consent to strengthen data governance and thus prevent the infringement of individual rights. However, there is the need to clarify the logic behind allowing the creation of a system that does not require consent within a field like medicine, which has high potential for public benefit<sup>23</sup>. Careful consideration must be given to any system that works independently of consent, due to its potential impact on the right to self-determination. Creating specific models and regulations for a framework that prevents rights infringement appropriately without the

20 Koiti Hasida. "Personal AI and Value Creation." *Japio Yearbook 2022* (Japan Patent Information Organization, 2023), pp.16-19.

21 The Council for Promotion of Regulatory Reform. "Developing Systems etc. for Using Medical Data (Draft)." ([https://www8.cao.go.jp/kisei-kaikaku/kisei/meeting/committee/230601/230601general\\_03.pdf](https://www8.cao.go.jp/kisei-kaikaku/kisei/meeting/committee/230601/230601general_03.pdf)).

22 [https://health.ec.europa.eu/ehealth-digital-health-and-care/european-health-data-space\\_en](https://health.ec.europa.eu/ehealth-digital-health-and-care/european-health-data-space_en)

23 Masako Wakae. "Using Patient Data—Consent No Longer Required." *Yomiuri Shimbun*, morning edition dated July 26, 2023 (remarks by Tatsuhiko Yamamoto).

use of consent in a manner similar to the EHDS could be the first step in constructing such a framework. (Within the EHDS, for example, “health data access bodies” are created to determine whether research institutions and other entities who wish to use medical data should be allowed to do so. This framework not only anonymizes data before giving it to users, but also supervises their usage of the data to ensure compliance with laws and regulations.)

## **(2) Challenges with the fact that medical DPFs allow medical data to be utilized under the primary purpose of use (utilization and application)**

### **(A) Issues**

NMIA established the notion that the best treatment can be provided to patients in general by facilitating research and development within the field of medicine through the use of anonymized medical data. In other words, anonymizing a person’s health data will benefit that individual by providing them with more advanced treatments developed by research institutions through the use of the health data. So, unlike NMIA which focuses on secondary purpose of use, APPI assumes that usage could be under the primary or the secondary purpose of use. The request for disclosure created by APPI does allow individuals to acquire and use their own medical data, but it does not go as far as establishing regulations for a framework that helps people take the initiative in managing that data themselves, since corresponding with every single data owner would be impractical.

### **(B) Possible solutions**

As mentioned, APPI assumes that usage could be under either the primary or the secondary purpose of use. In that case, we must consider whether a framework could be constructed and regulated under the law to go beyond requests for disclosure and enable patients to proactively use their own medical data for primary purposes. The General Data Protection Regulation (GDPR) establishes data portability as a basic right of European citizens. The data portability definition being considered for the EHDS is even more stringent than that of the GDPR, allowing users of one service to take the usage history and other data accumulated on that service and bring it to another service for use there. Since APPI does not mandate data portability, adding regulations to it that introduce a similar system and provide a regulatory framework that facilitates the emergence<sup>24</sup> of medical DPFs which enable the medical data of individuals to be collected and used by a variety of healthcare facilities (or at the very least, that lets individuals retain their health data in a decentralized manner and use it at their own discretion) could be one solution for expanding the scope of usage under the primary purpose of use.

<sup>24</sup> Koiti Hasida. “Expanded Data Portability and AI Governance.” *Japio Yearbook 2023* (Japan Patent Information Organization, 2023), pp.278-281.

## 5 Conclusion

This section discussed two of the remaining challenges related to the protection and usage of medical data by medical DPFs (the challenges that arise due to the nature of a medical DPF itself, and the fact that medical DPFs allow medical data to be utilized under the primary purpose of use) and presented a potential solution for them. Regulations that control medical DPFs are essential for protecting and utilizing medical data in a way that allows us to achieve the goal of treatment in the modern age, which is “providing treatment to patients and maintaining or improving the health of people (including the prevention of illness).”

There is a global trend of utilizing and applying medical and other personal data more liberally than before, and medical DPFs will play a big role in that. This article has only scratched the surface of the remaining challenges and their solutions, so more discussion related to the usage and application of medical data by DPFs is needed.

## Chapter 2 - III

# DIGITAL PLATFORMS AND HEALTH ADVERTISING

## : How Are Users Protected Under French Law?

Guillaume Rousset<sup>\*</sup>

The healthcare sector is no exception to the trend towards digital platforms. From mobile phone applications to websites, there is a clear market niche in this field<sup>1</sup>. Given the diversity of these tools, it is useful to draw up several categories. The first category concerns tools designed solely for healthcare professionals to help them make decisions and reduce the risk of error, for example in terms of diagnosis or prescribing. This is the case, for example, with the ‘VIDAL Mobile’ application, which allows users to consult the list of drug interactions, search for therapeutic alternatives or access a glossary of rare diseases. This is also the case for the ‘Ordoclic’ application, which offers a secure electronic prescription service, and ‘Aidediag’, which helps healthcare professionals with difficult diagnoses in adults, such as rare diseases. These tools, which are reserved for professionals, can also play another role by enabling them to exchange and interact with other careers or to share information, as shown, for example, by ‘Figure 1’, which brings together a community of healthcare professionals to share medical images and give their opinions on patient care. More generally, according to the French National Authority for Health (Haute autorité de santé, HAS), applications dedicated to healthcare professionals can be divided into four categories according to their purpose: management; information; personalisation; decision support<sup>2</sup>.

The second category is not aimed at healthcare professionals but at individuals, patients. There is also a wide range of health-related applications and advertising on websites. These tools vary according to their purpose. Some are aimed at prevention and well-being, counting steps taken or calories burned in a day, measuring heart rate or blood pressure, for example. Others focus on making appointments with healthcare professionals and sometimes even offer teleconsultations, such as the famous ‘Doctolib’.

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1 Boismery I., “La promotion de la chirurgie et de la médecine esthétiques sur les réseaux sociaux”, *CCE* 12/2022, n° 12.

2 Haute autorité de santé, *Classification fonctionnelle selon leur finalité d’usage, des solutions numériques utilisées dans le cadre de soins médicaux ou paramédicaux*, fiche, 2021, 13 p.

According to a study published in June 2021 by the French National Authority for Health, more than 327,000 e-health applications covering more than 240 diseases are available, without it being possible to distinguish the tools according to the categories cited. Among these, it is very important to note that 43 applications account for more than 83% of downloads, but above all that 65% have not been updated for more than 18 months, which raises serious questions about data security in particular<sup>3</sup>.

All these tools and messages are offered by private companies, but it is important to realise that the public authorities in France have developed a tool called “Mon espace santé”. It allows anyone to store their health documents and data confidentially, free of charge and securely, and to share them with the health professionals with whom they are in contact. Digital platforms are therefore not the monopoly of private players, even if they are in the overwhelming majority.

Beyond the technical aspects, the two categories mentioned are fundamentally different because of the various challenges they present. This is not to say that there are no challenges for tools reserved exclusively for healthcare professionals, but the fact that they do not link healthcare professionals with patients, i.e. with the people they are caring for, makes the issues different, even if they may enable patient information to be shared. On the other hand, the tools used by individuals enable a great deal of health data to be collected, i.e. personal data that is sensitive for the individual, but which represents a major commercial challenge for private players. A number of cases and scandals have highlighted the major problems that the use of these tools can cause. In March 2023, for example, it was revealed that the telemedicine start-up ‘Cerebral’ had shared the health data of 3.1 million Americans with advertisers and social networks such as Facebook, Google and TikTok, in breach of numerous rules. Similarly, a low-cost drug app called ‘GoodRx’ was fined 1.5 million dollars by the Federal Trade Commission for sharing information with Meta and Google. These scandals also exist in France, of course, and on 15 April 2022, the National Commission information technology and civil liberties (Commission Nationale Informatique et Libertés, CNIL) fined a biology company €1.5 million, in particular for security flaws that led to the leakage of the medical data of almost 500,000 people. Beyond this, there is also the question of the famous “cookies”, i.e. the small files stored by a server on a user’s terminal (computer, telephone, etc.) and associated with a web domain (i.e. in most cases with all the pages of a single website). These files make it possible to track the user’s browsing habits for statistical and, above all, advertising purposes. This also, and perhaps above all, refers to health-related advertising messages that can be disseminated on all types of digital platforms.

These different examples show just how diverse the issues can be. On this basis, it is necessary to determine how it is possible to reconcile the requirements of confidentiality and protection of digital data, which come under the right to privacy, with the expectations of businesses in terms of freedom of expression, freedom of enterprise and freedom of trade and industry. Faced with all this, the question is which set of rules is best suited to protecting individuals against problematic tools, especially advertising. Since it is the field of

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3 Haute autorité de santé, *Évaluation des Applications dans le champ de la santé mobile (mHealth) - État des lieux et critères de qualité du contenu médical pour le référencement des services numériques dans l’espace numérique de santé et le bouquet de services des professionnels*, referential, 2021, 95 p.

health that is at the heart of the question, is it health law that can provide effective protection, based specifically on the deontology of the health professions? Or is consumer law more appropriate, given that the use of these platforms frequently goes beyond the care relationship, moving more towards a consumer relationship? Are rules derived from soft law preferable? We will attempt to answer these questions by looking at the fact that professional deontology in the healthcare professions provide an essential but inadequate framework (I), while consumer law provides an important framework that is unsuitable in spirit (II). Attention will focus on the question of advertising, as this mechanism reveals the areas of interaction between health law and consumer law.

## 1 Deontology in the healthcare professions: an essential but insufficient framework for regulating digital platforms in the healthcare sector

The notion of information is naturally ambiguous. It covers different concepts whose spirit and legal regime are fundamentally different. Depending on the intention behind it, information may be promotional if its purpose is to encourage its recipients to perform the acts that are the subject of the communication (in which case it is advertising), or non-promotional if its purpose is to give its recipients access to technical or financial information with the disinterested aim of enlightening them<sup>4</sup>. In the field of health, this opposition takes on a particular meaning, since there is a natural reluctance to use advertising mechanisms, whereas the possibilities of non-promotional information for the health professions must not be restricted in application of their freedom of communication. The content of this challenge could be summarised as follows: “*Communicating without succumbing to the siren calls of advertising. This is the dilemma facing healthcare professionals*”<sup>5</sup>.

To address this dilemma, an analysis of deontological rules is of fundamental importance. Defined as “*the science of professional duties*”<sup>6</sup>, deontology is intended to govern the rights and duties of professions in general, and healthcare professions in particular, since they are very receptive to this type of internal regulation. The study of doctors’ deontology is an interesting example in that it reveals precisely how advertising is approached<sup>7</sup>, an approach that has varied widely, ranging from a strong suspicion that protects platform users from advertising (A) to an authorisation regime that weakens their protection (B).

4 On this question, see more generally Laude A., Tabuteau D. (ed.), *Information et produits de santé, quelles perspectives*, PUF, coll. Droit et santé, 2006, 188 p.

5 Laude A., Mouralis J.-L., Pontier J.-M. (dir.), *Droit de la santé*, Lamy, édition permanente. For an approach focused on this same issue, see Alméras J.-P., “Déontologie et communication : la profession médicale”, in Dubouis L. (ed.), *Déontologie et santé*, Sirey, 1997, 104 p., p. 25 et seq.

6 According to Beignier B., “Déontologie” in “Dictionnaire de la culture juridique”, Alland D., Rials S. (ed.), PUF/Lamy, 2003, 1649 p., p. 361.

7 Tome F., “Médecins et expression médiatique vus à travers un panorama de jurisprudence du Conseil d’État, juge de cassation des décisions disciplinaires des juridictions ordinaires”, *Trib. Santé*, 2023/1, No. 75, p. 25.



### (1) A historic suspicion in favor of protecting platforms users

In medical deontology, there has historically been a strong suspicion of advertising<sup>8</sup>, which makes this body of rules highly appropriate for protecting platform users. This suspicion is reflected in a number of provisions. One key provision lays down the general principle in this area; it comes from art. R. 4127-19 of the French Public Health Code, which states: *“Medicine must not be practiced as a business. All direct or indirect advertising processes are prohibited, in particular any layout or signage giving the premises a commercial appearance”*. In addition to its clarity, the wording of this article is of major interest, since the ban on advertising is presented as the expression of an essential general principle of medical practice, according to which medical practice is, by definition, incompatible with any mercantile or commercial spirit. The code of deontology does not stop at this article to deal with the phenomenon of advertising, since, having laid down this general principle, it goes on to regulate very precisely the practices that are authorised or prohibited through a series of miscellaneous provisions.

Firstly, there are provisions relating to the content of the prescription form (R. 4127-79 of the Public Health Code), public directories (R. 4127-80 of the Public Health Code), the nameplate (R. 4127-81 of the French Public Health Code), information on on-call and emergency duty (R. 4127-78 of the French Public Health Code) or the announcement that it is possible to make in the event of setting up or changing the practice of the profession (R. 4127-82 of the French Public Health Code). Even if, at first glance, this question does not seem to be directly linked to the subject of advertising, it is clear from the analysis that it makes a real contribution to it, since the practitioner uses these means to provide a range of information enabling the public to find out about him and to consult him. In this spirit, a lack of regulation of the content of this information could give free rein to the use of advertising methods that go beyond the strict information required of the general public.

Secondly, article R. 4127-13 of the Public Health Code is one of the other provisions that specifically govern this issue of advertising. According to this article, *“when a doctor takes part in a public information campaign of an educational or health nature, whatever the means of dissemination, he must only report confirmed data, show caution and be concerned about the repercussions of his comments on the public. They must refrain from any form of advertising, either personal or on behalf of the organisations in which they work or to which they provide assistance, or on behalf of a cause that is not of general interest”*. This is a special provision, since the issue of advertising is regulated here in a very specific case, which is not one of the most common practices. However, the rationale behind this provision is easy to understand. It would be totally unnatural for a practitioner to take advantage of a general public information campaign on educational or health issues, i.e. a campaign in the public interest, to advertise his practices. In addition to being an obvious violation of the non-mercantile and non-commercial nature of the medical profession, such an attitude would also have the effect of diverting the action of public interest from its initial function, thus constituting a serious breach of professional honor and probity.

<sup>8</sup> Moret-Bailly J., “Publicité et déontologie”, *Trib. Santé* 2014, No. 45, p. 31.

Finally, article R. 4127-20 of the Public Health Code should be cited. According to these provisions, “*the doctor must take care as to the use made of his name, his capacity or his declarations. He must not allow the public or private organisations where he practises or to which he lends his assistance to use his name and professional activity for advertising purposes*”. Here the rule laid down is very specific in relation to the other provisions, since the question of advertising is not addressed in terms of the benefits that the doctor might derive from it, but, on the contrary, in terms of the eventuality that he or she might be subjected to it indirectly and involuntarily. This is therefore another aspect of the question, totally different in spirit and implementation, since the doctor is not the author of advertising that he would have wished to carry out for his own benefit, but the involuntary victim of such advertising for the benefit of the organisation to which he lends his assistance or within which he practices. In this respect, it is a most interesting provision, since it emphasizes the diversity and nuance of the concept of advertising in medical practice, which can occur in a multitude of cases.

Having considered these provisions, let us now analyse the general spirit behind them. It is essential to specify why the regulation of these advertising issues is of particular importance. Within the Code of deontology, these provisions are linked to a broader concept of professional probity and honor. Given the fundamental nature of these two issues for the medical profession, they have a direct legal effect: while traditional breaches of professional deontology recognised by the disciplinary courts may be subject to the amnesty law, breaches relating to professional probity and honor are generally excluded from this possibility. This exception is indicative of the fundamental importance that medical deontology may attach to regulating the issue of advertising and any breaches<sup>9</sup>. Not only does medical deontology exclude all advertising practices, but it also prohibits them in an exceptionally strong manner compared with other existing misconduct<sup>10</sup>.

## (2) A current openness against protecting platforms users?

This principle of prohibiting advertising has been called into question on several occasions<sup>11</sup>, which could have the effect of drastically reducing the system of protection for platform users with regard to advertising. The first stage of this challenge is based on the decision of the Court of Justice of the European Union of 4 May 2017<sup>12</sup> which “precludes national legislation [...] which prohibits generally and absolutely all advertising

9 Alméras J.-P., Péquignot H., “Déontologie médicale”, Litec, 1996, 306 p., n° 15, p. 24 and n° 52, p. 89 citing in particular the example of the presidential amnesty law of 3 August 1995 excluding from its scope all acts constituting breaches of probity and honour (Law n° 95-884 of 3 August 1995 *on amnesty*, art. 14 from Chapter III relating to the amnesty of disciplinary or professional sanctions; J.O n° 182 of 6 August 1995, p. 11 804).

10 For example, Conseil d'Etat, 05 July 1972, *Sieur Ouahnon*, Rec. p. 511. In this case, a doctor gave permission for a beauty clinic to be set up in a room next to the flat in which he practised. He then consented to the distribution of an advertising card entitled “*Medicine and beauty - modern beauty treatments*”, offering various beauty treatments with medical follow-up and monitoring. This situation was deemed to be the source of confusion between the commercial operation of the aesthetic care practice and the doctor's professional activity, constituting a breach of professional honor. The judge deduced from this last qualification that the doctor could not benefit from the amnesty law of 30 June 1969.

11 Gras R., “Fin de l'interdiction absolue de la publicité chez les professionnels de santé et instauration d'une liberté de communication encadrée”, *JDSAM* 2021, n° 29, p. 92.

12 CJEU 4 May 2017, *Vanderborght*, aff. C-339/15 CJEU 4 May 2017, No C-339/15, pt 49: AJDA 2017. 1709, chron. P. Bonneville, E. Broussy, H. Cassagnabère and C. Gänser; D. 2018. 583, obs. H. Aubry, E. Poillot and N. Sauphanor- Brouillaud.

relating to oral and dental care services, in so far as it prohibits all forms of commercial communication by electronic means, including by means of a website created by a dentist”.

The second step was the report by the Conseil d’Etat on 3 May 2018<sup>13</sup>, in which European Union law and developments in communication techniques are highlighted in order to advocate a principle of free communication aimed at informing patients. This report also proposes a distinction between acts that are subject to a profession’s monopoly and those that are not, in order to introduce a differentiated communication regime.

The third step is the decision of the French Competition Authority on 15 January 2019<sup>14</sup>. Ruling on a complaint from a company offering discounted healthcare activities such as Botox injections, this authority first recalled the 2017 European case law already cited to conclude that “*mutatis mutandis*, Article R. 4127-19 of the Public Health Code, insofar as it provides for a general and absolute ban on all advertising, direct or indirect, for doctors, is not compatible with Article 56 TFEU and Directive 2000/31 on electronic commerce” (§ 55) and proposed that this provision should be left unapplied.

The fourth and final stage is the coup de grâce delivered by the Conseil d’Etat to this general ban on advertising methods, stating that the professional bodies may no longer decide or rule on the application of the provisions of their code of deontology prohibiting all advertising methods, on pain of judicial censure<sup>15</sup>.

This was followed by a series of decrees amending the Code of deontology for the healthcare professions<sup>16</sup>. Henceforth, free communication about their professional activity becomes the principle. However, this remains firmly governed by deontological rules designed to protect patients and, more generally, public health, particularly when using digital platforms. Focusing on doctors, eleven articles of the Code of medical deontology have been amended, maintaining the distinction between public information and advertising.

At the heart of the reform is article R. 4127-19 of the Public Health Code, the first paragraph of which, which has been retained, states that medicine must not be practiced as a business. The second paragraph, which lays down a general and absolute ban on advertising, has been deleted in its entirety and replaced by two new articles: R. 4127-19-1 and R. 4127-19-2 of the Public Health Code. These articles set out in detail the procedures by which advertising and communication may be carried out. Practitioners may now communicate to the public, freely and by any means, information likely to enlighten patients in their choice of doctor. This information includes, in particular, that relating to his “professional skills and practices, his career path and the conditions under which he practices”. This information must comply with the deontological rules and dignity of the profession, be “loyal and honest”, not rely on the testimony of a third party and not be comparative. In addition, it must not be used as a means of encouraging patients to seek care unnecessarily or of misleading the public.

13 Conseil d’Etat, Règles applicables aux professionnels de santé en matière d’information et de publicité, study, 3 May 2018.

14 Autorité de la concurrence, 15 janv. 2019, nos 19-D-01 et 19-D-02 : *pratiques mises en œuvre dans le secteur de la promotion par Internet d’actes médicaux, et dans le secteur de la promotion par Internet de soins dentaires, dites “Groupon”*.

15 Conseil d’Etat 6 Nov. 2019, n° 416948 B: *RDSS* 2020. 394, note Curier-Roche; *AJDA* 2019. 2273.

16 Décret n° 2020-1662 du 22 décembre 2020 pour les médecins ; décret n° 2020- 1661 du 22 décembre 2020 pour les sages-femmes ; décret n° 2020- 1658 du 22 décembre 2020 pour les chirurgiens-dentistes ; décret n° 2020-1660 du 22 décembre 2020 pour les infirmiers ; décret n° 2020-1663 du 22 décembre 2020 pour les masseurs-kinésithérapeutes ; décret n° 2020- 1659 du 22 décembre 2020 pour les pédicures-podologues.

In addition, the decree opens up a new possibility for practitioners: to communicate by any means, to the public or to healthcare professionals, information for educational or health purposes, provided that the information is scientifically substantiated and relates to their discipline or to public health issues. The practitioner must, however, be vigilant about the value of the information communicated and formulate it with caution and moderation.

Article R. 4127-53 of the French Public Health Code now states that doctors who communicate with the public about their activities, particularly on a website, must include information about the fees they charge, the methods of payment accepted, and the obligations imposed by law to ensure that everyone has access to prevention and care. Healthcare professionals are also now authorised to display a number of new items of information on their prescriptions and other professional documents, as well as on a plaque at the entrance to their place of practice and in directories, including their titles, diplomas and functions when they are recognised by the Conseil national de l'Ordre, and their honorary distinctions recognised by the French Republic. He may also, on his website, in directories and on his orders and official documents, include any information he deems useful to the public, provided he takes into account the recommendations issued by the Conseil national de l'Ordre. Finally, article R. 4127-82 of the CSP has been amended so that doctors are now allowed, when setting up or changing their activity, to have it published in any medium and not just in the press, as was the case before the reform.

In addition, article R. 4127-13 of the Public Health Code, which required doctors not to adopt an “advertising attitude”, either for themselves or in favor of an organisation within which they practice or to which they provide assistance, has been amended. The expression “advertising attitude” has been abandoned by the reform in favor of another formula which states that the doctor “does not aim to profit from his intervention in the context of his professional activity”, either for himself or for an organisation to which he is linked.

Despite these relaxations allowing healthcare professionals to use advertising, a number of prohibitions remain or have been added: priority digital referencing (Article R. 4127-80 of the Public Health Code); usurpation of titles, use of titles not authorised by the National Council and all procedures intended to mislead the public about the value of their titles (Article R. 4127-30-1 of the Public Health Code); and prohibiting the organisations with which the doctor is associated from using his name or professional activity for commercial purposes - and no longer for “advertising” purposes as was the case prior to the reform (Article R. 4127-80 of the Public Health Code).

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## **2 Consumer law: an important but inadequate framework for regulating digital platforms in the healthcare sector**

The supervision of advertising must be linked to consumer law because the function of this type of information is to ensure that consumers' rights are respected when information is provided. The intention is to subject this incentive process to sufficient conditions to ensure that the consumer is not the victim of manipulation, even if the spirit of advertising is above all to create or reveal a need for goods or services. In this

sense, the regulation of advertising is a direct technique for protecting the consumer by controlling access to information. However, it should be noted that this process can also have indirect effects on relations between professionals, since it is also a means for the authors of these promotional messages to present the qualities and advantages of their goods or services, encouraging consumers to choose them. In this way, it is also, albeit indirectly, a means of regulating competition, an instrument for protecting professionals in the course of the incentives that they practice as a result of rivalry. In the context of these developments, the concept of advertising will be considered solely in terms of its direct and primary function of protecting consumers, rather than in terms of its indirect and accessory mission of protecting professionals.

### **(1) Useful use of consumer law**

With regard to digital platforms, consumer law may be of real use in making up for certain shortcomings in health law or professional deontology in the protection of users with regard to health. More specifically, consumer law is necessary when the effect of such regulation, in the short term at any rate, is to provide legal protection for patients that health regulation cannot provide because of the absence of suitable mechanisms. Consumer law thus appears as a palliative to certain shortcomings of health law, the former being motivated by good intentions even if the means used are potentially inappropriate in spirit.

Consumer law therefore provides an interesting framework for protecting consumers and ensuring a level playing field between competitors. The legal framework for advertising is based on a number of fundamental principles that are entirely relevant to our subject. The first principle is fairness. This means that advertising must be truthful, honest and not mislead the consumer. Nor should it denigrate or discredit competitors. Secondly, the principle of transparency means that the identity of the advertiser, the promotional nature and the conditions of the offer must be clearly indicated. Finally, all advertising campaigns must respect human dignity and good morals.

On the basis of these principles, especially the principle of fairness, certain forms of behavior are specifically prohibited. This is the case with the prohibition on misleading advertising, where a message is considered to be misleading when it is based on a false presentation that is likely to mislead as to the essential characteristics of the service, the price, or the identity and abilities of the service provider. Similarly, an advertisement must not create confusion with another service or with the trade name of a competitor (prohibition of confusion) or discredit the products or image of another company (prohibition of denigration).

Other practices are not banned, but they are regulated. This is the case with comparative advertising. Comparative advertising is any advertising that compares goods or services by implicitly or explicitly identifying a competitor or goods or services offered by a competitor. This type of advertising is possible, but subject to certain conditions: it must be fair, clear, respect the distinctive features of competitors and not be disparaging. In view of these requirements, this means that comparative advertising must be objective, comparing one or more essential, relevant, verifiable and representative characteristics of goods or services that meet the same needs or serve the same purpose.

These practices can be identified in the context of the strong powers enjoyed by a public body under consumer law, which is not covered by health law: the Direction Générale de la Concurrence, de la Con-

somation et de la Répression des Fraudes (DGCCRF), a French government department reporting to the Ministry of the Economy. This department ensures the quality that consumers are entitled to expect from a product or service. To do this, it investigates and finds breaches of consumer protection rules, such as misleading advertising. It has fairly broad investigative powers. These powers may be ordinary, meaning that they do not require the authorisation of a judge. This is the case with the power to enter, between 8am and 8pm, any premises used for business purposes and any premises where services are being provided, as well as access to any means of transport used for business purposes. This is reminiscent of the search provided for in the Code of Criminal Procedure, a measure that is extremely invasive of privacy, which testifies to the extent of the powers granted to DGCCRF agents. They also have the power to obtain documents and gather information. Other investigative powers are extraordinary because they require the authorisation of a judge. This is the case for visits and seizures anywhere.

Once they have made their findings using their ordinary and extraordinary investigative powers, DGCCRF officers must decide what action to take. In some cases, the DGCCRF is directly responsible for deciding what action should be taken and implementing it. In other cases, it can only initiate proceedings, but does not itself have the power of decision. Failure to comply with the legal rules governing advertising may result in various sanctions, depending on the seriousness of the breach. These penalties can range from a simple warning to substantial fines of up to several million euros, depending on the turnover generated by the illegal practice. This is an interesting protection that medical deontology do not provide for users of digital platforms who may use health-related advertising.

## **(2) Dangerous use of consumer law**

Since the application of consumer law is useful, as a complement to professional deontology, in attempting to protect users of digital platforms, it might be tempting to think that this legal framework constitutes the ideal solution, which should be generalised. However, from our point of view, widespread application seems ill-advised because, despite providing short-term protection, it runs the risk of transforming health-care relationships into consumer relationships, betraying the spirit of the healthcare field. This is problematic for two complementary reasons.

On the one hand, consumer law and health law do not have the same regulatory purpose. As a result, they do not consider health in the same way. For example, consumer regulation views health as an objective to be achieved rather than an object to be regulated. However, this objective is relative in nature, since it competes with the other aims of consumer law, which are to protect consumer safety and defend consumer economic interests. In addition to this secondary nature, health is a conditional element because consumer law only considers it in terms of consumer relations, excluding any protection outside this framework. Conversely, health regulations take account of the notion of health as an object and not as an end in itself. This object is, moreover, the main one and is regulated in an autonomous manner, i.e. it does not depend on specific relationships. Irrespective of these elements, the very conception that each subject may have of the notion of health is profoundly different. Whereas health law considers health in its entirety, consumer law only takes account of its preventive dimension, adopting a partial view. It is in the light of all these remarks that it can



be said that consumer law and health law do in fact have a distinct regulatory object.

On the other hand, a divergence in the spirit of regulation must be observed. When regulating healthcare relationships, healthcare law adopts a mindset centered on trust, a notion that constitutes the main characteristic of this relationship for the patient and for the healthcare professional. Conversely, although trust is a component of consumer law, it is not its central concept. On the contrary, it is the economic dimension that dominates consumer law. As a result, consumer law focuses on guiding consumer relations in such a way as to ensure that the best conditions are met in terms of economic interests, safety and health. In this context, consumer law is based on distrust, which is the antithesis of trust, but also on the protection of a certain balance in contractual relations. This does not mean that consumer law does not take health and trust into account, or that health law does not incorporate the economic dimension or is not subject to a certain degree of mistrust. On the contrary, it means that, although these two sets of regulations incorporate these divergent concepts, they do not attach the same importance to them, and are based on a fundamentally opposed approach. The trust required by healthcare relationships is opposed by the mistrust legitimised by the intrinsic nature of consumer relationships.

However, the mere existence of these differences in approach does not automatically demonstrate the incompatibility that would be created by the widespread use of consumer law in the case of digital health platforms, justifying the need for a concrete and technical analysis as a complement.

The *leitmotiv* of consumer law is the increased protection of consumers, whose situations are not individually distinguished, but also the search for a certain security in contractual relationships. Conversely, health law puts in place protective measures for patients and health professionals, but these are applied entirely at the expense of the security of legal relationships. In the light of these factors, it is clear that the hypothesis of a generalised application of consumer law to healthcare relationships would undoubtedly pose a problem, whatever the hypothesis adopted: either the integration of the specific field of healthcare into the common body of consumer law does not prevent the specific nature of healthcare relationships from being taken into account, and then a situation of considerable inequality will be created within consumer law regulations, since the applicable rules will be disproportionately different depending on whether the situation taken into account is one of traditional consumption or medical consumption. Or, and this is the most likely hypothesis, consumer law is obliged to maintain this common body of rules by making no distinction according to the situation, in which case it will tend to standardise the specific object of regulation that health represents, leading to the end of the particularism of health relationships. This can be seen with certain founding mechanisms of health law, the maintenance of which is more than difficult to imagine in the hypothesis of a generalised application of consumer law. This is the case with the patient's right of withdrawal, which is currently not subject to any time limit, which is a source of great instability (justified) for the healthcare professional, but which it is inconceivable to maintain within consumer law, forcing the removal of this essential particularity. This is also the case with the conscience clause, which allows healthcare professionals to refuse a patient's request under certain conditions, a technique which it is unthinkable to maintain in consumer law, since the latter prohibits any consideration of subjective opinions in refusing a sale or a service.

Both the individuality of the patient and the specificity of the healthcare professional are therefore under



threat, since they are at odds with the guiding principles of consumer law. A general application of consumer law to healthcare relationships in the context of platforms would result in these relationships ultimately conforming to the objectives of consumer law, leading to a standardisation that would be detrimental to the specific nature of healthcare relationships. Moreover, it is certain that most of the ethical provisions governing the healthcare professions would not allow such a development, if only because they prohibit the commercial nature of their practice.

All these elements show that French law has a variety of tools at its disposal to try to protect users of digital platforms on which health-related advertising is disseminated. They are all centered on hard law, to the exclusion of soft law, but need to be reconciled because they complement each other, since it is clear that professional deontology or consumer law are not sufficient to provide this protection on their own.



## Chapter 2 - IV

# MEDICAL CHOICE IN THE ERA OF DIGITAL PLATFORMS

: What we believe and the way we choose our medical care

Tetsu Isobe<sup>\*</sup>

On New Year's Day, 2024, the morning after my TV night watching Sayuri Ishikawa's "Tsugaru Kaikyo Fuyugeshiki" and YOASOBI's "Idol" on the Year-end music program (*the 74th NHK Kouhaku*), I started writing this paper as the "first calligraphy" of the year. (I must apologize to all those concerned — deadline had already passed at that time.) But at 4:10 p.m. that same day, a major earthquake with a seismic intensity 7 on the Japanese scale, struck Ishikawa Prefecture, and information about the severe damage was coming in every minute. Praying to God that the damage would be minimal, I kept the TV on to learn about the tsunami, fires, collapsed buildings, clutching my smartphone and endlessly scrolling through Twitter (now X), Yahoo! News updates, and more. Needless to say, my writing made no progress that day.

Despite my poor excuses, I would like to say that many of us living today tend to rush to open our laptops or smartphones to get information from Twitter (X), browse Facebook, Instagram, or YouTube, or search Google or Yahoo! when we need some quick information or when we have nothing to do. This reflex seems to be the case not only for information on natural disasters, which requires a rapid response but also for "medical care decisions" (medical care here is broadly defined as health-related activities, including public health administration, such as vaccination, etc.).

For patients and their families (in short, all citizens) who wish to access necessary medical care when they need it, it is desirable to have an environment that allows appropriate access to essential information as a prerequisite. It is true that "appropriate medical care cannot be chosen without appropriate information", and the Japanese Medical Care Act regulates "medical advertising" as well as "provision of information on medical care" as part of "assistance in choosing medical care". However, whether these measures provide sufficient assistance in that regard remains unclear, given that there are issues before the advertising regulations (see the following section for the issue of self-funded medical care).

On top of that, there also seems to be a problem with whether or not any patient or citizen can properly evaluate the medical information they receive from digital platforms. If there is a trap for dangerous information from digital platforms that could lead to health problems, will someone be able to expose and eliminate

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it? Is it something we cannot and should not expect, leaving it entirely to individual responsibility? In dealing with information related to medical care, while fully understanding the impact of digital platforms, I would like to consider how appropriate information should flow and be disposed of so that patients themselves can make better-informed choices about their medical care.

Here, digital platforms refer to GAFA and various big and small search sites (in Japan, there exists platforms such as Hospital Navi, Doctors File, EPARK, etc.) that are the starting point for obtaining medical information, although there are many other applications available. I'd assume that some of you may have had the experience of searching for emergency medical care by Google search when your companion fell ill while traveling in an unfamiliar place. As specific examples, please consider the following two situations.

- a. I have been interested in cosmetic slimming, but was afraid of dubious products and didn't dare to try them. But then I saw a link to a YouTube video advertisement with magic words like "dream diet!" I figured that a beauty clinic with a medical license would be safe, so I decided to try the GLP-1 diet.
- b. The government had suspended active vaccination recommendations for the HPV (human papillomavirus) vaccine, which is intended to prevent cervical cancer, but resumed it in April 2022. A "catch-up vaccination" program was implemented to allow women who had missed the opportunity to be vaccinated during the suspension period to receive the HPV vaccine free of charge. My daughter also received a vaccination voucher from the local government. However, I have heard that there have been some lawsuits regarding the side effects of the HPV vaccine, so I am wondering if I should have her vaccinated.

The family physician function reporting system established by the 2023 revision of the Medical Care Act requires hospitals and clinics to report to the prefectural governor whether or not they are implementing family physician functions. Based on this information, specific methods to support medical institutions and promote cooperation will be discussed at prefectural and local conferences to strengthen the family physician function on a regional basis. This is a system in which prefectures widely provide and publish such information<sup>1</sup>. Although the details of the system are being finalized with a view to implementation in April 2025, it is also a matter of concern whether this can be a new platform that contributes to future medical decisions. From the perspective of "informational administrative approaches"<sup>2</sup> it is important that the information provided at each stage of the reporting, consultation, and publication is substantive and accurate, and that it truly contributes to patient and public choice of medical care. In addition, appropriate support must be provided for those who are unable to access such information on health care (this could include children, the

1 The revision of the law in the same year also reformed the system of providing information on medical functions (centralizing and standardizing nationwide information and improving accuracy and convenience) to enhance "support for choice in medical care" (Chapter 2 of the Medical Care Act), and promoted the flow and differentiation of outpatient medical care by making it mandatory to provide written documents and explanations to patients with chronic diseases, etc., and by creating an environment in which citizens and patients can easily have a family doctor.

2 See, Tetsu Isobe "Disclosure and Publication of Government Information and Informational Administration Approaches (行政保有情報の開示・公表と情報行政手法)" in Tsutomu Isobe, Mitsuro Kobayakawa and Yoshikazu Shibaike, eds. *New Concepts in Administrative Law II* (Yuhikaku, 2008), 343-367 pages.

elderly, people with disabilities, and people with low information literacy who are unable to make full use of information and communication technologies). In an age where everyone has access to a wide range of medical information, the key issue is, after all, how to ensure dialogue and trust with one's family physician. While I had originally intended to discuss a range of related issues, such as whether the very structure of the medical profession is in question, I left most of them out due to space limitations.

## 1 Medical Advertising Regulations<sup>3</sup>

### (1) Overview of Medical Advertising Regulations

Websites and social networking services operated by the medical institutions such as doctors, dentists, hospitals, and clinics are places where information on medical services and on pharmaceuticals and medical devices intersect. The laws governing the display of information on those media are also in a state of parallel development. The Medical Care Act regulates the advertising of medical practices, hospitals, and clinics, and the Pharmaceutical and Medical Devices Act frames the advertising of pharmaceuticals<sup>4</sup>. Since space is limited, let us focus on the advertising regulations for medical practices and related matters, as set forth in the Medical Care Act<sup>5</sup>.

In determining whether an advertisement falls within the scope of regulation under Chapter 2, Section 2 of the Medical Care Act, “Advertising of Medical, Dental or Midwifery Services” (hereinafter referred to as “Medical Advertising”), the Guidelines for Advertising of Medical or Dental Practices as well as Hospitals or Clinics (Medical Advertising Guidelines. Hereinafter referred to as “GL”) state that the following two requirements must be met: there must be an intention to induce patients to seek medical treatment (inducibility), and the name of the person providing the medical or dental practices, or the name of the hospital or clinic must be identifiable (identifiability) (GL 21)<sup>6</sup>. Not only physicians, dentists, or medical institutions such as hospitals, but also the mass media, advertising agencies, affiliates, patients, or the general public are subject to advertising regulations<sup>7</sup>.

3 This section is discussed in detail in Tetsu Isobe “A Preliminary Consideration of Advertising Regulations Concerning Medical Care (医療に関する広告規制についての予備的一考察)” in *Essays in honor of the 70th Anniversary of Professor Katsunori Kai* (Seibundo, 2024).

4 Other important issues include the status of regulations, including those related to health foods, and the Health Promotion Act, but I do not consider them in this paper.

5 See, e.g., Hidenori Akabane, Keiko Inoue, “Q & A: Laws and Practices Concerning Advertising Displays of Health, Drugs, and Medical Care (Q & A: 健康・医薬品・医療の広告表示に関する法律と実務)” (Nihon Kayo Shuppan, 2020). The Ministry of Health, Labor and Welfare’s website, “Regulations on Advertising of Hospitals, etc. under the Medical Care Act (医療法における病院等の広告規制について)” contains related laws, guidelines, and questions and answers. [https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/kenkou\\_iryuu/iryuu/kokokukisei/index.html](https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/kenkou_iryuu/iryuu/kokokukisei/index.html) (Last reviewed on June 10, 2024. The same applies to the URLs in this paper.)

6 Examples of items not normally considered to be medical advertisements include: academic papers and presentations, articles in newspapers and magazines, testimonials and memoirs written by patients, etc., pamphlets posted in hospitals and distributed within hospitals, and advertisements for the recruitment of staff for medical institutions (Guideline No. 2-5).

7 Article 6-5, Paragraph 1 of the Medical Care Act provides that “No party shall make false advertisements when making advertisements or other indications by any means (hereinafter referred to in this section simply as “advertisements”), including documents, regarding medical or dental practices or hospitals or clinics as a means of soliciting patients for medical treatment”.

The first pillar of medical advertising regulation is to prohibit certain advertisements in accordance with the law. Article 6-5, Paragraph 1 of the Medical Care Act prohibits false advertising because it may provide patients and others with materially incorrect information, resulting in lost opportunity to receive appropriate medical care or leading them to receive inappropriate medical care. In addition, the law prohibits comparative quality advertising (Article 6-5, Paragraph 2, Item 1 of the Medical Care Act), exaggerated advertising (Item 2 of the same), advertising of content offensive to public order and morality (Item 3 of the same), advertising of testimonials based on subjectivity and hearsay (Article 1-9, Item 1 of the Enforcement Regulations of the Medical Care Act, delegated by Item 4 of the same), before-and-after photographs and the like that may mislead patients and others (Item 2 of the same).

The second pillar aims to protect patients and other users by limiting the scope of advertising the names of departments and medical institutions, and advertising of other things is generally prohibited. However, there is an important exception to this second pillar. When certain requirements are met, it is to publish on the websites of medical institutions information that goes beyond the scope of those regulations. This is a so-called “lifting of restrictions” mechanism. When the law was amended in 2009 to expand the scope of the advertising regulations to include websites, medical and patient groups pointed out that the blanket prohibition on posting on websites of medical institutions, may lead to concerns that patients with intractable diseases or malignant tumors, for example, may not be able to obtain necessary information about treatments they want to know about, such as therapeutic agents approved overseas but not yet approved in Japan.

In the event of a violation of the above regulations, the GL envisages various responses, including (a) investigation and administrative guidance, (b) reporting order or on-site inspection (Article 6-8, Paragraph 1 of the Medical Care Act), (c) suspension or correction order (Article 6-8, Paragraph 2), (d) criminal prosecution, and (e) administrative disposition (Article 28 [order to change management] and Article 29 [revocation of opening license and closure order]). Also, when administrative guidance is not followed and the suspension or correction order is issued, or if criminal prosecution is filed, the case will generally be made public to alert patients about the offending advertisement.

In addition, the Ministry of Health, Labor and Welfare has been conducting the Internet Patrols (a commissioned project) under the “Proposal on Websites and Prior Explanation/Consent for Cosmetic Medicine Services” (July 2015) issued by the Consumer Affairs Commission in response to repeated consumer troubles related to cosmetic medicine services related to information provided on the website of medical institution. The Internet Patrol receives reports, conducts active monitoring and screening, and notifies medical institutions of any violations, and approximately 85% of these cases are corrected. Although it is a de facto initiative, the Internet Patrols have achieved some results. However, when improvement is not attained through alerts from the Internet Patrol operators, the case is shared with the local government. Still, some cases require a long time for the medical institution to respond. Most of these cases are corrected or the advertising is withdrawn, a certain number of long-term unimproved cases exist. Even in such cases, there are few cases where legal measures, such as reporting orders, on-site inspections, and suspension/correction orders, are implemented.

## (2) Advertisements regarding treatment with unapproved drugs -----GLP-1 as material

Although advertisements for treatment with unapproved drugs are generally prohibited, they are permitted if all of the following conditions for lifting restrictions are met.

1 The information has to be posted on a website that contributes to appropriate medical choices, and such information must be sought out and accessed by patients themselves, and other advertisements of a similar nature;

2 Contact details should be provided so that patients can easily inquire about the content of the information. It should also be indicated by other means;

3 Clear information must be provided regarding the content and cost of treatments usually required for self-funded medical treatment;

4 Information must be provided about the major risks, side effects and other relevant matter the treatment related to self-funded medical treatment (3 and 4 are only relevant if information about self-funded medical treatment is provided).

When unapproved drugs are used in unrestricted medical care, in addition to (i) stating that the drug is an unapproved drug, (ii) stating the route of acquisition, (iii) stating whether the drug is approved in Japan, and (iv) clearly stating information on safety in other countries, it is necessary to (v) state that the unapproved drug is not subject to the relief under the Adverse Reaction Relief System for Drugs and the Biologic Product Infection Relief System.

The GLP-1 diet case involves an improper use of GLP-1 receptor agonists and GIP/GLP-1 receptor agonists, which are drugs for type 2 diabetes, as “slimming pills” by private importers and some beauty clinics. Although they are approved overseas for obese patients at high risk of health problems, we must keep in mind that they are approved for obese “patients,” not just obese “individuals,” and their safety and efficacy without type 2 diabetes is not, in Japan, scientifically confirmed.

The increase in the number of GLP-1 dieters can be largely attributed to the partial revision of the Ministry of Health, Labor and Welfare’s “Guidelines for the Appropriate Implementation of Online Medical Treatment” (March 2018), which now allows online treatment from the initial consultation. Although the guidelines apply to both self-funded and insured treatments, the removal of the principle of an initial face-to-face consultation principle has probably lowered the hurdle for both medical institutions and users of the GLP-1 diet. Another factor is the launch of an oral drug in February 2021, whereas initially, only an injectable drug was available. This trend was further accelerated by advertisements, which are now widespread on social networking sites promoting the off-label use of the drug for beauty, slimming, weight loss. If you search for “GLP-1 diet” on YouTube, you will find doctors in white coats advertising it at a price of 3,300 yen for 10 pills. As a result of this inappropriate distribution of drugs that should be used for treatment but are being misused by healthy people, nearly 1,000 cases are confirmed in which inpatient or outpatient prescriptions had difficulties to obtain or prescribe GLP-1 drugs<sup>8</sup>.

<sup>8</sup> <https://www.med.or.jp/nichiionline/article/011391.html>



### (3) Medicine without scientific evidence: what to do

The situation in which medical advertisements promoting the off-label use of prescription drugs for dietary purposes and self-funded medical treatment have developed extensively, and even limited supply, suggests that the above-mentioned advertising regulation system is not working effectively enough. The current situation can be described as almost lawless.

However, an even more serious problem is that, in addition to the ineffective advertising regulations, there is a critical situation in Japan where medical care or pharmaceutical with little evidence are provided as a “self-funded medical treatment”, and there is no control over this. It has long been pointed out that there is a problem with the lack of adequate regulation of the content of medical treatments outside of insured treatments<sup>9</sup>. However, the various problems of self-funded medical treatments have been discussed at the Japan Medical Law Association from time to time in recent years<sup>10</sup>, and medical jurisprudence research is currently in progress<sup>11</sup>. In this context, the question of the self-discipline of professional associations in dealing with such issues is one of the most important issues to be considered (Kawashima’s article in Chapter 3 is written with the same awareness).

The efforts of academic societies have a certain significance<sup>12</sup>, but what about the Japan Medical Association? At the press conference held by the association’s executive director on October 25, 2023<sup>13</sup>, it was stated that “the use of GLP-1 receptor agonists for non-prescription purposes such as weight loss does not constitute a ‘prescription’”. He also expressed concern that “some of the valuable pharmaceuticals that should be used for the treatment of diabetes are inappropriately used as ‘weight loss drugs’ by personal importers and beauty clinics.” He further pointed out the problem by saying, “I believe that such actions should be prohibited from the perspective of the risks of using pharmaceuticals on healthy people and the proper use of pharmaceuticals, as they are advertised as ‘GLP-1 diets’ and used for self-funded medical treatment.”. Nevertheless, he

9 See, e.g., Shigeto Yonemura, *Lectures on Medical Law 2nd ed.* (医事法講義 第2版), Nihon Hyoronsha, 2023, p. 75 et seq.

10 Tsunakuni Ikka, Tatsuo Onishi, and Yuichiro Sato, “The Actual Situation and Legal System of Regenerative Medicine Practiced as Self-Funded Medical Treatment after the Enforcement of Regenerative Medicine Therapy (再生医療法施行後に自由診療として行われる再生医療の実態と法制度)” in *Journal of Medical Law*, vol. 38, 2023, pp. 86-98. The record of the workshop of the 53rd Annual Meeting of the Japanese Association of Medical Law “Advertising Regulation and Medical Contracts as a Means of Regulation of Medical Services for Profit (営利目的の医療に対する規制手段としての広告規制と診療契約)” (Directed by Tsunakuni Ikka) will be published in the Annual Report of Medical Law No. 39 (to be published in 2024).

11 See, e.g., Masako Kotani, “Necessity of Prior Regulation for Medical Treatment with Poor Scientific Basis (科学的根拠に乏しい診療に対する事前規制の必要性)” *Kanagawa Hogaku*, vol. 55, no. 1, 2022, pp. 53-92; Tsunakuni Ikka, “Current Status of Cancer Treatment Based on Regenerative Medicine Law: Problem of Legal System Enabling Medical Practice with Unproven Safety and Efficacy to be Called *Treatment* (再生医療法に基づくがん治療の現状—安全性・有効性が未確立な医療行為を“治療”と称することを可能にする法制度の問題)”, *Oncology*, vol. 31-5, 2023, pp. 580-585.

12 For example, the Japan Diabetes Society urges, “Physicians, especially members of the Society, should always be aware of the danger to patients’ health posed by inappropriate drug therapy, strictly avoid inappropriate advertising that may lead to misunderstanding, and prescribe drugs appropriately based on the status of approval in Japan. In addition, we warn you that inappropriate drug use recommendations, especially by Society specialists, will damage the public’s trust in diabetologists and will not be accepted by the Society”. See, “Position of the Japan Diabetes Society on the Off-label Use of GLP-1 Receptor Agonists and GIP/GLP-1 Receptor Agonists (GLP-1 受容体作動薬および GIP/GLP-1 受容体作動薬の適応外使用に関する日本糖尿病学会の見解)” (April 12, 2023, <https://www.pmda.go.jp/files/000252782.pdf>) and “Position of the Japan Diabetes Society on the Off-label Use of GLP-1 Receptor Agonists and GIP/GLP-1 Receptor Agonists/ GLP-1( 受容体作動薬および GIP/GLP-1 受容体作動薬の適応外使用に関する日本糖尿病学会の見解)” (November 28, 2023, <https://www.pmda.go.jp/files/000265856.pdf>).

13 [https://www.med.or.jp/dl-med/teireikaiken/20231025\\_4.pdf](https://www.med.or.jp/dl-med/teireikaiken/20231025_4.pdf)

concludes, “as a fellow physician, I very much regret that physicians are involved in this type of business under the name of a ‘medical institution.’ He also emphasizes that “drugs should be administered to those who need treatment and are expected to be effective, and it is against medical ethics for doctors, who are supposed to safeguard public health, to use them for purposes other than their intended treatment.

Even when it is clear that there are doctors who violate medical ethics by prescribing such drugs (which should not be called “prescribing”), the association merely expresses regret and does not take any effective actions. Of course, the association as a voluntary organization, it cannot be expected to impose effective sanctions. Still, it seems necessary to question once again whether such a legal situation in Japan is appropriate in terms of the design of the licensing system. Should such advertising not be subject to removal for reasons even more fundamental than merely being classified as “medically inaccurate information (see below)”?

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## 2 Medical Information and Digital platforms

The above discussion focused only on the problems of ineffective advertising regulations, including those on digital platforms, and the implementation of medical care with little evidence in the name of self-funded medical cares. Next, with the above “Case b” in mind, let us consider the relationship between medical information and digital platforms.

### (1) Voluntary Efforts by Digital platforms

There are countless cases of people who have been told that there is nothing can be done for their family member’s terminal cancer, who have tried everything from chemotherapy to radiation therapy, and who are looking for hospice care while desperately searching for the latest treatments. Then, they see the advertisements and words like “cancer cured!” and “few side effects, gentle on the body”, they quickly believe them based on the case pictures and testimonials, and end up paying several millions of yen in treatment fees<sup>14</sup>. Such advertisements can be found on YouTube and other sites, but as we saw in the previous section, the advertising regulations in the Medical Services Law are not very effective.

Data platform operators have been monitoring inappropriate information for some time, and YouTube has also established “community guidelines” that prohibit illegal information, including illegal drugs, fraud, threats, identity theft, and other content that violates the law, as well as harmful information that may offend human dignity, such as images of sex, violence, and corpses. Traditionally, YouTube has attempted to maintain appropriate conditions by deleting or issuing warnings. This practice is known as “content moderation,” and it has become a necessary part of digital platforms’ work as a socially influential organization. In August 2023, YouTube updated its materially harmful content policy and published three guidelines

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<sup>14</sup> Recent court decisions include the Utsunomiya District Court decision of November 25, 2021, LEX/DB 25591436, and the Tokyo High Court decision of July 6, 2022, No. 2553, p. 12, in which an autologous cancer vaccine was disputed.

regarding false or misleading information. One of these, the “Medical Misinformation Policy”<sup>15</sup>, includes the following prohibitions on posting.

Don’t post content on YouTube if it includes any of the following:

Prevention misinformation: We do not allow content that promotes information that contradicts the health authority (author’s note\*) guidance on the prevention or transmission of specific health conditions, or on the safety, efficacy or ingredients of currently approved and administered vaccines.

Treatment misinformation: We do not allow content that promotes information that contradicts the health authority guidance on treatments for specific health conditions, including promotion of specific harmful substances or practices that have not been approved by local health authorities or the World Health Organization as safe or effective, or that have been confirmed to cause severe harm.

Denial misinformation: We do not allow content that denies the existence of specific health conditions.

In the specific “Examples” column, “Health Authority and World Health Organization” is added, and in the “Additional Resources” column, a link to the Ministry of Health, Labor and Welfare’s vaccination information<sup>16</sup> is provided, along with resources from the World Health Organization (WHO) or Centers for Disease Control and Prevention of the United States.

In recent years, the digital platforms have also been monitoring medical disinformation. Here “disinformation” or “misinformation” refers to information with little scientific evidence to support it. For example, in the “Outline of the National Action Plan for Novel Influenza” (July 2, 2024), “so-called fake news and false information of unknown authenticity” are referred to as “disinformation and misinformation”<sup>17</sup>. In the past, they were not subject to any special regulation. They were left alone and not actively deleted from social networking sites. This was due to the concerns over freedom of speech and expression, and because there are cases where the sender of misinformation has no malicious intent, such as when it is simply an assumption

15 [https://support.google.com/youtube/answer/13813322?hl=ja&ref\\_topic=10833358](https://support.google.com/youtube/answer/13813322?hl=ja&ref_topic=10833358)

16 [https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/kenkou\\_iryuu/kenkou/kekaku-kansenshou/yobou-sesshu/index.html?sjid=523668684639436944-AP](https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/kenkou_iryuu/kenkou/kekaku-kansenshou/yobou-sesshu/index.html?sjid=523668684639436944-AP)

17 In the Government Action Plan for Pandemic Influenza, etc. Countermeasures (July 2, 2024), “Chapter 4: Information Provision and Sharing, Risk Communication,” states that “In an infectious disease crisis, there is a risk of information confusion, prejudice and discrimination, and the spread of so-called fake news and false information of unknown authenticity (hereinafter referred to as “false information and misinformation”). Therefore, in order to effectively implement countermeasures against infectious diseases, it is important to promote the sharing of risk information and perspectives through two-way communication as much as possible, so that the public can make appropriate judgments and take appropriate actions. In addition, during the response phase, “the government will make necessary requests and cooperate with the efforts of social networking sites and other platform operators as countermeasures against prejudice, discrimination, etc., and false information and misinformation (3-1-3. Measures Against Prejudice, Discrimination, etc. and False Information and Misinformation). This action plan is a legal plan based on Article 6 of the Act on Special Measures against Novel Influenza. Previously, there was no specific legal basis for government agencies to monitor disinformation and misinformation and require digital platform operators to take action. However, by being clearly stated in this revision proposal, it became a legal basis for the government to monitor and implement requests to deal with false and misleading information. Although there are no direct penalties, there is an undeniable risk that freedom of speech and expression will be violated or atrophied, depending on how the measures are implemented. In promoting measures against misinformation, it is necessary to ensure transparency of the implementation status so that the actual situation can be understood and verified by a third party after the fact.

or misunderstanding on the part of the sender. During COVID-19, however, there were various movements through the public discourse surrounding the new coronavirus vaccine (see Russet's article and Kawashima's article for more information on the COVID-19 movement). Misinformation was regarded as a threat to public health, and the government and experts began to consider this as a problem.

## (2) What is “medical misinformation”? ----- Regarding the HPV vaccine

However, is it appropriate for YouTube's policy to define “medical misinformation” regarding prevention, treatment as information that is inconsistent with guidelines issued by health authorities and the World Health Organization?

Let us refer to the opinion letter titled “Request for Review of YouTube Community Guidelines - Problematic nature of deleting videos that contradict MHLW's opinion as ‘medical misinformation’” submitted to the Ministry of Health, Labor and Welfare on May 8, 2024, and published by the Council of Ombudspersons for Drug Harms. The Council is “an NGO that was established in June 1997 at the call of the lawyers of the contaminated blood scandal lawsuit and the National Citizens' Ombudsman Liaison Conference with the aim of preventing drug-related harm” (quoted from the conference's website) and it has continued to make proactive proposals on issues such as drug safety and the alleviation of health harm. This opinion letter is a call for the problematic practice of targeting videos that contradict the views of the Ministry of Health, Labor and Welfare for deletion as containing medical misinformation.

The following discussion is based on the HPV vaccine case study (above b). The basic information provided by the Ministry of Health, Labor and Welfare website regarding human papillomavirus infection, cervical cancer (uterine cervical cancer) and HPV vaccine is as follows<sup>18</sup>:

- Human papillomavirus (HPV) is a common virus that infects more than 50% of sexually active women at least once in their lifetime. It has been implicated in the development of many diseases, including cervical cancer, anal cancer, vaginal cancer, and condyloma acuminatum. In particular, the incidence of cervical cancer among young women has increased in recent years.
- The vaccine to prevent HPV infection (HPV vaccine) is routinely given to girls from the sixth grade of elementary school through the first year of high school.
- Active recommendations for the HPV vaccine were temporarily suspended in June 2013. However, in November 2021, an expert evaluation concluded that “it is appropriate to end the suspension of active HPV vaccine recommendations,” and from April 2022, individual HPV vaccine recommendations have been made in the same manner as other routine vaccinations.

<sup>18</sup> See, Ministry of Health, Labor and Welfare, “Human Papillomavirus Infection - Cervical Cancer (Uterine Cervical Cancer) and HPV Vaccine (ヒトパピローマウイルス感染症～子宮頸がん(子宮けいがん)とHPVワクチン～)” <https://www.mhlw.go.jp/bunya/kenkou/kekaku-kansenshou28/index.html>

According to the opinion letter, some videos of the international symposium held by the Council in 2018, in which representatives of foreign HPV vaccine side effect victim groups were invited as guests, as well as videos uploaded to YouTube by patients with side effects, their families, and supporters, were removed because they were deemed to be inaccurate medical information.

The HPV vaccine is available at public expense to girls between 6 and 12 years old. When the routine vaccination began in April 2013, various symptoms, mainly pain and movement disorders, were reported after the vaccination. Three months later in June of the same year, the Ministry of Health, Labor and Welfare decided to suspend active recommendations of the vaccine. Suspension of active recommendations means that local governments refrain from actively encouraging vaccination by sending out vaccination voucher to every household, although the legal status of the vaccine as a routine immunization, such as payment at public expense, remains unchanged. In April 2020, the Ministry of Health, Labor, and Welfare decided to resume active recommendation of the vaccine (while also starting catch-up vaccinations) after new data was collected showing the vaccine's safety and efficacy, in response to criticism by the WHO for Japan's low vaccination rate.

Meanwhile, women claiming health problems following HPV vaccination filed a class-action lawsuit in July 2016 seeking damages from the government and two pharmaceutical companies. At that time, while others complained of health problems caused by the vaccine, the government and the WHO recognized the safety of the HPV vaccine. According to the Ombudsperson Conference on Drug Harms, "According to a leaflet from the Ministry of Health, Labor and Welfare, the number of reports of suspected serious adverse reactions to the HPV vaccine is 5 to 7 per 10,000 vaccine recipients (about 1 in 1,500 to 2,000 people). This is approximately eight times higher than the average for other routine vaccine adverse reactions. In addition, the number of people who have received disability certification under the Adverse Reaction Relief System is about 20 times higher than the average for other routine vaccinations."<sup>19</sup> If this is true, it can be said that the frequency of suspected adverse reactions to the HPV vaccine is considerably higher than that of other vaccines such as the Japanese encephalitis vaccine or BCG. However, since "suspected adverse reaction" here is a concept in which the causal relationship between the vaccine and the symptoms has not been legally established, the Ministry of Health, Labor and Welfare has evaluated the various symptoms that have occurred after vaccination as not having a proven causal relationship to the vaccination and has thus far determined that no serious concerns can be found. Thus, the two sides present very different ideas: that there is a possibility of a causal relationship and while the other argues that a causal relationship has not been proven. Should one of these perspectives be immediately removed as "medically incorrect" merely because it contradicts the guidance issued by the health authority? Although I do not share the same views as the plaintiff and have been a proponent of catch-up vaccination, I still believe that it is necessary to maintain the viewpoint that the government narrative is not always correct<sup>20</sup>.

19 Ombudsman Conference on Drug Harms, "Problems with HPV Catch-Up Vaccine - Do You Still Want to Get the Catch-Up Vaccine? - (November 23, 2023) [https://www.yakugai.gr.jp/topics/file/20231123%20HPV\\_catchup\\_vaccination\\_problems.pdf](https://www.yakugai.gr.jp/topics/file/20231123%20HPV_catchup_vaccination_problems.pdf)

20 The Ministry of Health, Labor and Welfare maintains its own evaluation criteria, which differ from international standards, and has declared more than 99% of fatal cases of suspected corona vaccine side effects reported under the Immunization Act as "not

### (3) Characteristics of medical information related to life and health

By the way, it is necessary to prevent the cervical cancer, and the low cervical cancer screening rate, which is less than 50% in Japan, should be taken into consideration. If precancerous lesions can be detected through screening, the onset of cancer can be prevented in many cases, and such information is important for cancer prevention. However, the term “screening” does not appear on the Ministry of Health, Labor and Welfare website for information about the HPV vaccine, and there is a bias in the information (is there a vertical fragmentation of the information, as the term appears on a different page?) Nowhere is it indicated that vaccines may not be the only important thing. In a rush to jump to conclusions about whether or not vaccines should be administered, I wonder if the information about what can and should be expected from vaccines, and what is known and not known about vaccines, has been sufficiently considered. While there are ongoing discussions on potential health risks, I believe that the social infrastructure is not sufficiently developed to organize and share professional information in an accessible way<sup>21</sup>.

Except in cases where something is clearly wrong with the scientific methodology, it is not a reasonable attitude to assume that only one side of a scientific argument is correct and that all information on the other side should be limited in areas where judgments tend to be divided, such as the safety and risk-benefit balance of a particular pharmaceutical product. More importantly, when dealing with medical information related to human life and health, it is necessary to collect and analyze materials that contribute to the examination of right and wrong, and to develop an information infrastructure that allows third parties to verify the information provided to ensure its reliability.

This is because it is impossible to ignore the fact that, in the past, drug-related accidents have been caused by government-approved drugs. In the thalidomide case, the government ignored Dr. Lenz’s warning that thalidomide caused fetal deformities and continued to market the drug, which was a remote cause of the spread of damage unique to Japan. The Solivudine case, which resulted in 15 deaths due to delays in emergency safety information among all other factors, taught the lesson that drugs must be properly controlled from approval to post-marketing. The safety of pharmaceutical products cannot be fully confirmed only by the information obtained from clinical trials conducted under strict conditions with a limited number of patients, and it is generally recognized that unexpected side effects are inevitable after approval and marketing. For this reason, various initiatives based on the Pharmaceutical Affairs Law are being implemented. The safety of medicines can only be ensured through the continuous collection and analysis of post-marketing safety information and through the review and evaluation of such information not only by the government, which

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evaluable due to insufficient information,” and there has been insufficient post-event verification of cases equivalent to “possible”. It is reported that the public is neither convinced nor confident, and it is criticized that it is difficult to receive vaccinations with peace of mind (for details, see Tetsu Isobe, “Memorandum on Reports of Suspected Adverse Reactions to the New Type Corona Vaccine ( 新型コロナウイルスワクチン副反応疑い報告に関する覚書 )” *Keio Law Journal*, No. 50, 2023, pp. 37-52.

21 For the similar observation, see, Koshiro Owaki (physician and translator), *Weekly Toyo Keizai*, July 6, 2024, p. 43. He stated that the HPV vaccine has been confirmed to reduce precancerous lesions, which are the stage before cancer, in a relatively reliable randomized controlled trial, while there has been no study showing that the vaccine reduces deaths from cancer, and that the risk of premature birth, etc., increases when precancerous lesions are removed. Although the vaccine is recommended to reduce precancerous lesions, the effect of reducing cancer has only been confirmed in observational studies, and it is a leap to link this to a reduction in mortality.



has the authority to approve medicines but also by a wide range of experts and researchers (similar concerns have been raised by the Ombudsperson Conference on Drug Injury, “Opinion letter”). The system in which only the views of the Ministry of Health, Labor and Welfare and other health authorities are correct, and any contrary or contradictory views are uniformly deleted as “medical misinformation,” seems to be fraught with serious problems that disregard historical empirical knowledge of ensuring drug safety<sup>22</sup>.

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## Conclusion

The present article, along with its accompanying series of books, aim to examine how preset and future society will or should resist transformation amid the battle of two monsters, Leviathan-State and Behemoth digital platforms. In her article on “Proposal 2” in this book, Kawashima portrays the medical profession as an “old monster” that stands alongside or rivals the giant monster Leviathan (which representing the state) in its influence. She explores strategies to combat infodemics together with the digital platforms, likened to a new monster Behemoth. In this way, the medical profession is important in the context of health and medical care.

In the Old Testament book of Job describes Behemoth, often portrayed as a large hippopotamus, stating, “Behold now, Behemoth, which I created as well as you; He eats grass like an ox” (Job 40:15 (1955 Revised Standard Bible))<sup>23</sup>. From a Christian standpoint, it is difficult not to sympathize with Behemoth if he is excessively demonized, considering he is also described as “the first of God’s works” (v. 19 of the same). Medicine should have been viewed as a natural part of human beings birth, survival and life, not to mention its connection to “Asclepius”, the Greek god of healing, whose ancient temple was renowned for medical practices. While the monster metaphor might be more suitable for other volumes in this series, which treat individual rights, power or democracy, the status of medicine and its profession could be depicted using alternative representations.

The Constitution of Japan stipulates that the Leviathan (the state) “shall endeavor to improve and promote social welfare, social security, and public health.” (Article 25, Paragraph 2). Still, it is unclear exactly how the healthcare system should be structured to fulfill this responsibility. Undoubtedly, it is imperative to establish a system to eliminate any attempt of bypass the monopoly of medicine by doctors (Medical Practitioners Act) and to ensure that medical facilities and pharmaceuticals have a minimum level of safety and quality

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22 It is undeniable that there is medically incorrect and obviously inferior information about pharmaceutical products that should not be disseminated, and there may be cases where such information should be removed before harm is done. In such cases, it is necessary to have a full exchange of views and to explain what kind of information has been judged to be erroneous, based on what kind of evidence. The literacy of the recipient of the information is also a question that needs to be answered.

23 The word “Behemoth” in English can be pronounced and written in many ways in Japanese, but in this series of papers “Behemoth (ビヒモス)” is used primarily in the context of the Hobbesian style. Regardless of which kana notation is preferred by constitutional and political scholars, I believe that the way the notation is used here is related to the understanding of the meaning of Behemoth in the Bible in the first place. The New Common Translation of the Old Testament and the Encyclopedia of the Old and New Testaments (Kyobunkan) use different kana notations for Behemoth. As a Catholic, I would like to use the term “Behemoth (ベヒモス)” that I am personally familiar with.



assurance (Medical Care Act and Pharmaceuticals and Medical Devices Act). Failure to build any of these would clearly violate the spirit of the Constitution, but how should the new monster Behemoth deal with medical and healthcare information? While the legal framework has not fully adapted, it is hard to accept that it is enough that the new and old monsters collude to eliminate the dissenting information.

In Osamu Tezuka's comic series *Black Jack*, "Sometimes Like a Pearl" is one of the most memorable episodes for me. When Dr. Jotaro Honma, the surgeon who saved the protagonist, Black Jack's life, was on his deathbed, Black Jack performed a perfect operation, but Honma did not revive. While Black Jack was devastated, Honma (or his spirit?) placed his hand on his back and said, "Don't you think it's arrogant for humans to think they can control the life and death of a living thing?.....". The Hippocratic Oath, which has been handed down in Western medical education around the world to the present day as a written oath of professional ethics for physicians<sup>24</sup>. It an oath sworn to the medical gods Apollo and Asclepius, along with all the other gods, to fulfill the best of one's ability and judgment the duty of master and disciple and the precepts and confidentiality. Apollo, the god of medicine, was the greatest medical god of ancient Greece, who had the gift of prophecy and foresight and was "in charge of human life and death"<sup>25</sup>.

In other words, before the mystery of life and death, there are limits to the power of medicine and man, and it is impossible to say that even drugs now considered safe are always safe, or that all side effects are known.

This is not to say that medicine is nothing compared to a force of nature and should be abandoned as soon as possible. The Chinese poetry "Gift to Medicine," which Professor Yukichi Fukuzawa, founder of Keio University, is said to have given to Dr. Shibasaburo Kitasato, who devoted himself to the establishment of the Research Institute for Infectious Diseases. It sums up that medicine is like the record of an endless battle of wits between nature and man, that doctors should not say that they are no more than servants of nature, and that only by recognizing disease and treating it appropriately with all possible means can the true essence of medicine be born (無限輸贏天又人 醫師休道自然臣 離婁明視麻姑手 手段達辺唯是真<sup>26</sup>). The essence of civilization lies in efforts to harness nature through human intellect and apply it to human life, and the development of civilization and learning lies in the continuous struggle to do so. This manifests Fukuzawa's philosophy, and I believe many people still share this view. While keeping Professor Fukuzawa's very positive view of civilization that, eventually, all causes of diseases will be understood and cures will be found (see "Tendou Hito ni Kanari" ("The Way of Heaven is Possible for Man") in "Fukuō Hyakuwa" ("One Hundred Discourses of Fukuzawa")) as the ultimate goal, we need to carefully handle health-related information, while at the same time accurately assessing the achievements and limitations of modern science

24 Hideto Emoto, "Hippocrates and Medical Ethics (ヒポクラテスと医の倫理)", in Japan Medical Association, *Fundamentals of Medical Ethics*, 2018 Edition. [https://www.med.or.jp/doctor/rinri/i\\_rinri/a06.html](https://www.med.or.jp/doctor/rinri/i_rinri/a06.html)

25 For the translation and position of the medical god Apollo, see Mamitaro Otsuki (translation), "Oath (誓い)" in Shinichiro Otsuki, *New Revised Complete Works of Hippocrates*, Vol. 1 (Enterprises, 1997), pp. 579-582.

26 Keio University Hospital Medical and Health Information Site (KOMPAS) [https://kompas.hosp.keio.ac.jp/sp/contents/medical\\_info/scholarship/](https://kompas.hosp.keio.ac.jp/sp/contents/medical_info/scholarship/)

for the time being.

When “old monster”, medical experts, are enlisted by government agencies to influence policy formation or to participate in the decision to remove online content deemed “inconsistent with health agency guidelines,” they may act as if they were gods who know the truth about everything, unilaterally restrict the dissemination of various types of information. This is not a desirable and appropriate attitude, both from the standpoint of the history of drug abuse and the oath sworn to the gods such as Apollo. Neither closed discussions among experts alone nor closed discussions among the government, digital platforms, experts, and others can eliminate the risk of collective error, concealment of mistakes, and further harm, and it is essential that the information process be open to outside observers so that the adequacy of the collection, analysis, and evaluation of information can be properly monitored. The unrestricted spread of false and misleading information is undesirable, and while it is important to establish a monitoring system to prevent health hazards, it is expected that digital platforms will find their unique role and play it appropriately, taking into account the reflection of history that the views of experts and government authorities are not always correct.

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# THE STRUGGLE BETWEEN STATES AND DIGITAL PLATFORMS OVER PUBLIC HEALTH

Haluna Kawashima\*

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## Introduction

In this volume, “Proposal 2”<sup>1</sup> examines a case of an “informational epidemic”, which is called “Infodemic”, wherein the polluted information environment surrounding infectious diseases adversely affects public health. Alarming, physicians,<sup>2</sup> who are entrusted with safeguarding public health, were complicit in propagating this infodemic. While this is scandalous in itself, the issue becomes even more disconcerting when considering a World Health Organization (WHO) study highlighting the greater difficulty in rectifying misinformation<sup>3</sup> spread by physicians compared to that disseminated by governments<sup>4</sup>. This paper explores the potential roles and responsibilities of the State, digital platform operators (DPFs), and physicians in addressing this complex issue and examines the legal and institutional frameworks that can be implemented to mitigate its effects.

The medical profession, which serves as the focal point of this discussion, has long been associated with

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1 According to the findings of the Reuters Institute, “(H)igh-level politicians, celebrities, or other prominent public figures produced or spread only 20% of the misinformation in our sample, but that misinformation attracted a large majority of all social media engagements in the sample” and show Donald Trump’s use of Twitter (now X) as an example (J. Scott Brennan *et al.* “Types, sources, and claims of COVID-19 misinformation”, *Reuters Institute Fact Sheet April 2020*, on line. DOI: 10.60625/risj-awvq-sr55) (Last viewed on 2 November, 2024. (Hereafter, the date of the last view of the website is the same). For a discussion of the relationship with politics, see Tomoyuki Miyata, “The Trump Administration’s New Corona Response and Conservatives (トランプ政権の新型コロナウイルス対応と保守派)”, *Tokyo Foundation Institute for Policy Studies* (2020), <https://www.tkfd.or.jp/research/detail.php?id=3404>. On the dangers of the connection of populist politics with public health, see Toru Yoshida, “Virus as a Social Construct: Anti-Vaccine, Populism, and Trust (社会的な構成物としてのウィルス—反ワクチン・ポピュリズム・信頼)”, *Gendai Shiso*, vol. 48-16 (2020), pp. 145-152.

2 While physicians are not the sole healthcare professionals responsible for public health as, all healthcare professionals must be involved, this paper primarily focuses on physicians, who hold the highest legal authority within the healthcare professional hierarchy in Japan.

3 “While misinformation refers to the accidental spread of inaccurate information, disinformation is not only inaccurate, but intends to deceive and is spread in order to do serious harm” (United Nations, *Countering disinformation*, <https://www.un.org/en/countering-disinformation>). See also United Nations General Assembly, Resolution: Countering disinformation for the promotion and protection of human rights and fundamental freedoms (2022), A/77/287.

4 Borges de Nascimento, Israel Junior, *et al.* “Infodemics and health misinformation: a systematic review of reviews.” *Bulletin of the World Health Organization*. vol. 100-9 (2022), pp. 544-561. DOI: 10.2471/BLT.21.287654

“privileges” and “authority.” Legally, only physicians can practice medicine exclusively. Socially, “medical paternalism,” in which physicians apply superior expertise to unilaterally decide patients’ treatments, has raised concerns, paving the way for the development of informed consent practices. Politically, medical associations wield significant power as interest groups, often exerting considerable influence over political parties. In contrast, during the COVID-19 crisis, physicians emerged as heroes, valiantly combating the virus on the front lines. Medical professionals and organizations implemented vaccination programs in alignment with government policies, collaborated in the preparation of hospital infrastructure, and provided critical care. The Covid-19 pandemic highlighted a distinct facet of the medical profession, serving the public interest in safeguarding public health, which is a markedly different role from routine clinical practice.

Following the concept of this series<sup>5</sup>, the state can be likened to the giant monster Leviathan, a creature of immense power confronted by a rival force, a Behemoth, representing today’s DPF. In this analogy, the medical profession can be seen as a “veteran monster,” a powerful entity that, despite being held by Leviathan, is capable of engaging in a dynamic interplay with it. Its profound knowledge and expertise, societal significance, integral role in national governance, and organizational strength enable it to wield influence and assert its authority within a broader public health governance framework.

Returning to the example discussed above, the COVID-19 infodemic primarily unfolded on social networking platforms controlled by DPFs. Public health emphasizes advocacy, encompassing education and awareness, and relies heavily on communication channels such as these platforms. While DPFs may initially seem to have nothing to do with public health, they are “new monsters” that can facilitate the dissemination of health-related information and, in many ways, control its flow. Although DPFs do not wield the same authority as physicians, they have an undeniably profound influence on public health, exerting both positive and negative effects. Notably, during the infodemic, DPFs acted swiftly to optimize the information environment, even going as far as regulating or banning certain physicians’ comments on their social networking platforms. This unprecedented control underscores the pivotal role social media plays in shaping public discourse on health.

When misinformation proliferates on social networking platforms, a critical question arises: how can the Leviathan, as well as the traditional and emerging “monsters,” respond to this threat effectively as public health stewards? Is Japanese law ready to respond infodemic?

5 See also Volume 1 of this series, Tatsuhiko YAMAMOTO (editor-in-chief) Pauline TÜRK, Haluna KAWASHIMA (ed.), *Platforms and States: How to Settle the Battle of Monsters*, Keio University Global Research Institute, 2025. This metaphor is derived from Tatsuhiko YAMAMOTO, “近代主権国家とデジタル・プラットフォーム—リヴァイアサン対ビモス (The Modern Sovereign State and the Digital Platform: Leviathan versus Behemoth)” Hajime YAMAMOTO (ed.), *Basic Theory of Constitutional Law* (憲法の基礎理論), Shinzansha, 2022, pp. 147-181.

## 1 The Premise of Freedom of Expression

### (1) State's Oath

The State is the main guardian of the people's health, as underscored by Article 25, Paragraph 2 of the Constitution of Japan, which mandates that "the State shall endeavor to improve and promote social welfare, social security, and public health in all spheres of life." Consequently, the State may directly impose restrictions on physicians' speech to combat misinformation and protect public health. These legal measures are intended to prevent physicians from disseminating false or misleading information.

However, the State's restrictions on physicians' speech appear to be neither effective nor legally acceptable. People cannot be expected to believe an announcement from the government attempting to refute misinformation that condemns the government itself. Furthermore, significant challenges are associated with implementing such restrictions on freedom of expression, as guaranteed by Article 21 of the Constitution of Japan. Questioning recommended measures against infectious diseases or proposing alternative treatments, even if they diverge from official government positions or established medical standards, constitutes protected speech under the principle of freedom of expression. Counter-speech that challenges government speech is a hallmark of a mature democracy. Restricting speech because its content is bad or inaccurate should be avoided, as it risks enabling the authorities to restrict dissenting voices that they find inconvenient. Although content-based restrictions on freedom of expression, such as those targeting obscene or violent speech, may be legally permissible, they must demonstrate substantial justification and adhere to the principle of proportionality to ensure that such measures are necessary and pose as few restrictions as possible<sup>6</sup>. The constitutional guarantee of freedom of expression represents a solemn commitment by the State to its citizens, and often enjoys stronger protection than other fundamental rights.

The dissemination of public health information by physicians cannot be curtailed simply because the content differs from government policies. Any such restriction must pass strict controls, such as if the restrictions are necessary to save lives and protect public health, a hidden ulterior motive exists, or the intended objectives could be achieved through less intrusive means. The State's restriction on physicians' freedom of expression is a last resort when a strong need for it is presented, and, whether it is constitutional is highly questionable.

### (2) DPFs' Ethos

DPFs, which derive their revenue from advertising tied to user-generated expressive content ("posts") and user engagement ("attention"), fundamentally rely on providing an open forum for free expression that encourages broad participation. Providing a free speech space in which anyone can easily participate is the lifeline of their business model<sup>7</sup>. Emerging tech monsters who see their *raison d'être* in realizing freedom

6 Nobuyoshi ASHIBE, 憲法学 III 人格各論 [増補版] (*Constitutional Law III: Theories of Personhood [enlarged edition]*) (Yuhikaku, 2000), pp. 403 *et seq.*

7 On this point regarding the freedom of expression, see, Tatsuhiko YAMAMOTO, "思想の自由市場の落日：アテンション・エコノミー×AI (The Fall of the Free Market of Ideas: Attention Economy × AI)" *Nextcom*, 44 (2020), pp. 4-14.

of expression, underpinned in a business ethos and viability centered on a free speech space, should want to minimize restrictions on user posts within their managed social networking services.

However, following the spread of misinformation about COVID-19 on social networking sites, which led to an infodemic, major DPFs began to control speech.

In December 2021, Twitter (now X) published its “Policy on Misleading Information about COVID-19,” announcing it would request the deletion or temporary suspension of accounts sharing clearly false information in light of widely available and reliable sources. Examples of such posts include conspiracy theories such as “the pandemic is a hoax,” “the government and pharmaceutical companies are concealing vaccine-related adverse effects,” and “vaccinated individuals are experiencing magnetic reactions.” Posts that provide information that is scientifically accurate or incorrect but does not pose an immediate or direct health risk would be subjected to softer penalties, such as warnings, removal from the “recommended” section, or disabling of retweets, though, the criteria for determining whether information is accurate remain ambiguous.

YouTube’s Medical Misinformation Policy applies to content on preventive medicine, including interventions for infectious diseases. For example, videos promoting substances that briefly gained attention as COVID-19 treatments but do not have confirmed medical efficacy, such as ivermectin or chloroquine, are removed as misinformation. The accuracy of such content is assessed based on statements and guidelines issued by public health authorities, such as WHO and government organizations in charge of public health.

DPF measures involving the immediate removal of misinformation can be highly effective countermeasures against infodemics. However, they also raise several concerns. First, DPFs may arbitrarily determine what qualifies as good and bad information, leading to users being mistakenly excluded from the social networking service discourse space or labeled as propagators of misinformation. For physicians, being flagged as a source of misinformation could severely undermine their professional credibility and reputation as experts.

Second, the policy for dealing with misinformation can change at the discretion of DPFs. For example, in December 2022, following its acquisition by Elon Musk earlier that year, Twitter ended its application of COVID-19 misinformation countermeasures<sup>8</sup>. Ultimately, a DPF’s commitment to public health depends on its intentions as a private company.

### (3) Physicians’ Oath

Does freedom of expression also protect against misinformation by physicians? The “free market of ideas” theory is one reason why freedom of expression is so strongly protected<sup>9</sup>. This theory posits that the circulation of diverse opinions is essential for eliminating false information and revealing truth. It argues that

8 BBC News Japan, “Twitter suspends policy regulating misinformation about new coronavirus” (November 30, 2022), <https://www.bbc.com/Japanese/63804414>.

9 Regarding the theory of the free market of ideas in the U.S. presented in Japan, see Keigo KOMAMURA, “多様性の再生産と準拠枠構成 (Reproduction of Diversity and Conforming Frame Construction)” Keigo KOMAMURA *et al.* (eds). *I 表現の自由－状況へ (Freedom of Expression – Towards a Situation)*, Shougakusha, 2011, pp. 3-40. Although many matters need to be examined regarding physicians’ freedom of expression in relation to the free market of ideas theory, such discussion is beyond the scope of this paper.

the decision of what is “correct” expression should not be left to the convenience of government, but to the free “competition” of ideas in open discourse. Applying this theory to public health, it suggests that the more physicians use social networking sites the better, as they will share various perspectives and spark debate that will help us find the truth. The dissemination of varied information, even if contentious, can serve a vital function in the pursuit of “truth” in public health.

However, our gut feeling is that this is not the case. The efficacy and safety of vaccines and treatments, as well as the efficacy of masks in preventing infection, are not matters for casual public debate but should be guided by scientific expertise (although the extent to which policy reflects experts’ views remains a political question). Therefore, those who call themselves experts, such as physicians, are expected to base their public statements on scientific evidence and refrain from sharing information that lacks such a foundation.

Physicians recognize this responsibility. The World Medical Association states that, unlike in the time of Hippocrates, when physicians were responsible only to their patients, physicians today also have a broader responsibility to society including a specific duty to contribute to public health<sup>10</sup>.

Physicians have a professional responsibility to not only promote the health of their clients but also encourage society to act in ways that advocate public health. Although the principle of medicine affirms that everyone has the right to make informed decisions about their health, ensuring access to accurate personal and public health information and improving health literacy are necessary for these choices to be made in reality<sup>11</sup>. The World Medical Association has also stated that physicians “must actively participate in educational efforts to improve the health literacy of non-specialists.”<sup>12</sup> The information that physicians are called upon to disseminate should empower individuals to make informed, health-promoting decisions and must be firmly rooted in evidence-based science.

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## 2 How Can the Government Oversee Physicians’ Speech?

### (1) A Possible Exception to Professional Speech

The idea that the content of information experts provide should be scientifically valid and that experts’ freedom of expression should be restricted is known in the United States (the birthplace of the free market of ideas theory) as “professional speech.” This concept appears to be supported by both academic societies and courts<sup>13</sup>. Physicians provide medical treatment because they “profess” their advanced medical knowledge,

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10 The World Medical Association, *WMA Statement on Physicians and Public Health*, 1995 (Bali), revised 2006 (South Africa) and in 2006 (Taipei).

11 Health literacy regarding public health is defined as “the knowledge, willingness, and ability to obtain, understand, evaluate, and use health information” and is “essential for maintaining and promoting people’s health and for decision making that contributes to them” (Atsushi ASAI, “ワクチン接種の混乱やデマから考えるヘルスリテラシーの重要性 (The Importance of Health Literacy from Vaccination Confusion and Hoax)”, *Nursing Today Booklet 17*, Japan Nursing Association Press, 2022, p. 28).

12 *Supra.* note 10., The World Medical Association.

13 Robert Post, “Informed Consent to Abortion: A First Amendment Analysis of Compelled Physician Speech,” 2007U. ILL. L. REV. 939, 947 (2007).



cultivating a “mutual and subjective relationship of trust”<sup>14</sup> with their patients. This “relationship of trust” can only be established if physicians provide their patients with clear and scientifically grounded information. Thus, by examining the source of physicians’ “privilege” in terms of their professional responsibility, restricting their speech can be justified<sup>15</sup>.

Therefore, does the professional speech exception to freedom of speech apply to the American case discussed in “Proposal 2” in this book? Unfortunately, recent developments in the United States suggest “no.” For instance, in California, the “Misinformation Act”<sup>16</sup> would allow the State Medical Board to suspend the licenses of physicians who intentionally publicize information that contradicts scientific evidence and deviates from standard medical practice. However, the state legislature interpreted the professional speech exception to apply only to the confidential relationship between a physician and patient, and determined that a physician’s speech to the general public on television or a social networking site would be covered by the usual freedom of speech protections<sup>17</sup>. The possibility of disciplinary action against physicians under the new law is limited to cases in which physicians intentionally provide false information to their patients<sup>18</sup>. From this example, we can imagine that freedom of expression serves as an extremely high hurdle, even when it concerns physicians’ speech.

## (2) Discipline Physicians

The aim of California’s Anti-Misinformation Act was to discipline physicians responsible for misinformation through disciplinary action targeting their medical licenses. Japan has also adopted a system through its own medical licensing framework to deal with those who lack the necessary qualifications to be physicians<sup>19</sup>. The Minister of Health, Labor, and Welfare (MHLW) grants medical licenses only to those who demonstrate the necessary knowledge, skills, and ethics through formal medical education and a national examination, and may also revoke or suspend these licenses if such qualities are deemed unmet. Only those with a valid medical license are allowed to call themselves physicians (title monopoly) and lawfully practice medicine (practice monopoly). Therefore, the suspension or revocation of a license bars them from medical practice for the sentenced duration.

14 For a definition of the medical profession in Japan, see Akiko NOZAKI, “医事法の基本原理 (Basic Principles of Medical Profession Law)”, *Medical Law Study*, No. 1 (2019), p. 36.

15 See Hiroshi MATSUDA, 知の共同体の法理—学問の自由の日米比較 (*The Jurisprudence of the Community of Knowledge: A Japan-U.S. Comparison of Academic Freedom*), Yushindo, 2023, pp. 226-229.

16 California Assembly Bill 2098, passed September 30, 2022.

17 This understanding was based on the American case law understanding of professional speech. Yoshihito INOUE, “プロフェッショナル・スピーチ” (専門職言論) の類型化の意義: 知識コミュニティ理論からのアプローチ (*The Significance of the Typology of ‘Professional Speech’ (Professional Discourse): An Approach from Knowledge Community Theory*), *Hiroshima Hōgaku* 43-4, 2020, pp. 166-204, DOI: 10.15027/49259.

18 Although the new law was passed, a lawsuit was filed by an opposing group of physicians and a stay was ordered, noting that prohibiting it as “misinformation contrary to the standard of care and at variance with contemporary scientific consensus” would discourage physicians from freely discussing the issue (US District Court, Eastern District of California, Case 2:22-cv-02147-WBS-AC, January 25, 2023).

19 It should be noted that there are some significant differences between the U.S. and Japanese licensing systems. For example, the State Medical Boards in the U.S. are responsible for granting, renewing, and disposing of licenses which are, by contrast, the role of the Minister of public health in Japan.

After hearing the opinions of the Medical Ethics Council, which is composed of medical professionals such as physicians, the MHLW may decide to issue a warning, suspend a practice for up to three years, or revoke a physician's license if the requirements listed in the Medical Practitioners' Act are met (Article 7). The law states that the MHLW must "hear the opinions of the Medical Ethics Council"; therefore, one could reasonably assume that the opinions of the Council will be directly reflected in the decision.

According to the Medical Practitioners' Act, disciplinary action may be taken against physicians who are unable to perform their duties properly owing to reasons such as disability (as specified by ministerial regulation), addiction to narcotics, being sentenced to a fine or more severe punishment, or committing a crime or performing a wrongful act related to medical practice, as well as those who have "acted in a way that damages their responsibility as a medical practitioner." However, in reality, only physicians convicted of criminal offenses are subject to disciplinary action<sup>20</sup>, and "damages the responsibility as a medical practitioner" is understood as performing criminal acts<sup>21</sup>.

Thus, physicians' speech is extremely difficult to regulate within Japan's disciplinary framework. First, the existing licensing system does not readily accommodate disciplinary action in cases where a physician spreads misinformation on social networking services, as such conduct does not directly qualify as an act that "damages the responsibility of a physician." Government-imposed sanctions must rely on pre-established rules; therefore, suddenly reinterpreting the law and disciplining physicians for sharing misinformation could be deemed unlawful.

Second, explicitly revising the Medical Practitioners Act to state "disseminating information without a scientific basis" as a ground for disciplinary action poses risks. Because physicians' speech receives robust protection as freedom of expression, if lawmakers were to take adverse action against a physician because of an error in a post on a social networking service, it would raise suspicion of a violation of that freedom.

### 3 Pride of the Old Monster - Autonomous Discipline

#### (1) Rules of Conduct for Physicians

As discussed above, neither the government nor DPFs appear to be suitable or proactive actors for disciplining physicians who disseminate misinformation for various reasons. However, if we cannot rely on either national regulations or DPF controls, the only way to ensure appropriate physician speech is to rely on physicians' self-restraint. What form might such a system take?

France provides an illustrative example of a system in which physicians regulate their own speech.

20 Ministry of Health, Labour and Welfare of Japan, "Medical Ethics Council (Subcommittee)". [https://www.mhlw.go.jp/stf/shingi/shingi-idou\\_127786.html](https://www.mhlw.go.jp/stf/shingi/shingi-idou_127786.html).

21 Since the number of punishments is also small, strong criticism has been made as to whether the system is being operated appropriately to ensure compliance with "medical ethics." Norio HIGUCHI, Norio, "医師の基本的責務 A-9 医道審議会の組織と機能 (Physicians' Basic Responsibilities: A-9 Organization and Functions of the Medical Ethics Council)" Japan Medical Association, *Basic Knowledge of Medical Ethics*, 2018 Edition. [https://www.med.or.jp/doctor/rinri/i\\_rinri/a09.html](https://www.med.or.jp/doctor/rinri/i_rinri/a09.html).

Although the State (Minister in charge of Public Health) also licenses physicians in France, physicians themselves oversee professional conduct after they have been licensed. The body responsible for this discipline is the *Ordre des médecins*, a professional organization for physicians. The *Ordre des médecins* follows the Code of Medical Deontology which comprises ethical and professional standards drafted by the *Ordre* itself and subsequently incorporated into the national legal system (Public Health Code) by government decree, thus officially elevating it to the status of a binding rule<sup>22</sup>.

Let us briefly examine what the Code of Medical Deontology prescribes as the moderation of speech that physicians should observe as professionals. First, as stated by the World Medical Association, physicians are generally responsible for public health, which requires them to participate in government health and hygiene efforts and health promotion initiatives (Public Health Code, Article R.4127-12). Furthermore, when communicating health-related information as part of public health campaign, physicians “must present only verified data, exercise caution, and remain mindful of the potential impact of their statements on the public,” regardless of the means of communication (Article R.4127-13 of the same code). Thus, physicians who disseminate public health information must exercise restraint and remain conscious of how their messages are received. Moreover, as outlined in Chapter 2-III of this book<sup>23</sup>, the 2020 revision of the Code of Medical Deontology introduced a provision to reconcile physicians’ freedom of expression with professional moderation. Physicians “may also communicate, by any means including the Internet, to the general public or other healthcare professionals for educational or public health purposes concerning matters within the physician’s specialty or broader public health concerns” (Article R.4127-19-1, paragraph 3). Physicians are free to speak out on public health issues, but not allowed to communicate “unconfirmed hypotheses as established facts.”

Thus, in France, the professional ethics that physicians impose on themselves provides a framework for their speech, requiring them to consider how it will be received by ordinary people and whether it is based on scientific evidence. These rules allow physicians’ speech to be regulated without the State arbitrarily restricting the freedom of expression or allowing DPFs to dominate the speech environment. Professional ethics is said to consist of rules that explicitly set out “how professionals should behave”<sup>24</sup> to fulfill their social responsibilities and maintain their credibility. The third approach to regulating physicians’ speech is through institutionalized professional ethics, which seeks values that differ from both the government’s policy-based perspective and DPFs’ commercial perspective.

## (2) Institutionalization of Discipline

To ensure that physicians’ speech remains appropriate, it is not sufficient for them to create rules and be committed to them; there must also be a mechanism to monitor compliance. In France, a system exists

22 A few studies have been published in Japanese on the legal positioning and authority of the French Medical Order; see especially Tetsu ISOBE, “A Study on the rule-making authority of the French Medical Order ( フランス医師会の命令制定権に関する一考察 )” Yuichiro SATO and Tomoyo KONISHI (eds.), *Encounter of Medicine and Law* ( 医と法の邂逅 第一集 ), vol. 1 (Shogakusha, 2014), pp. 69-102.

23 Guillaume Rousset, “Digital Platforms and Health Advertising: How Are Users Protected Under French Law”, Tetsu Isobe *et al.* (ed.), *Platforms and Social Foundations: How to Engage the Monsters*, Keio University Global Research Institute, 2025, pp 57 *et seq.*

24 Naotake KATO (ed.), 応用倫理学辞典 (*Dictionary of Applied Ethics*), Maruzen Publishing, 2008, p. 352.

wherein physicians themselves investigate and sanction colleagues who breach these rules. The *Ordre des Médecins* has a disciplinary tribunal composed of physicians who serve as “judges,” an organization independent of the board of the *Ordre* itself. This disciplinary tribunal hears cases of violations of the Code of Medical Deontology and imposes disciplinary actions on offenders, including expulsion from the medical association and suspension of membership. Unlike the Japanese Medical Association, the French *Ordre des Médecins* is a mandatory organization that all physicians must join; therefore, those who have had their membership status revoked cannot practice medicine, even if they retain their medical license. Through this structure, the French system entrusts the creation of universally binding rules, monitoring of their observance, and disciplinary process for violators to a unified professional body that includes all physicians.

However, the *Ordre des Médecins* does not function as a closed guild. Because the Code of Medical Deontology has the force of a government decree, it remains under the control of the Cabinet. In addition, the third instance of the disciplinary tribunal is conducted by judges of the Supreme Administrative Court (*Conseil d'État*), thereby ensuring a legal check. Furthermore, as ordinary citizens, including patients, can petition the *Ordre des Médecins* for disciplinary action against physicians, the system is open to the public. The involvement of governmental bodies and citizens reduces the exclusivity of professional organizations; yet, the discipline of physicians ultimately remains within the self-regulatory framework of the professional body itself. This feature distinguishes France's approach and contrasts markedly with Japan's government-led model of physician discipline.

### (3) Discipline of “Anti-Vaccine” Physicians

Let us examine a French case in which a physician's speech on the Internet questioning the government's vaccination policy was deemed to have exceeded the bounds of moderation.

In France, childhood vaccinations are legally mandatory, and the government's vaccination policy was subject to much public debate even before the COVID-19 pandemic. Starting in 2014, the gastroenterologist and cancer specialist Henri Joyeux used his personal blog and Twitter to express his opposition to the government's recommendation that girls from the age of 9 receive the HPV vaccine and the government's proposal to increase the number of compulsory vaccinations for infants from 3 to 11. He launched two online petitions that collected over one million signatures titled “No to mass vaccination with the HPV vaccine!” and “Compulsory vaccinations: the French are being deceived by the law and pharmaceutical companies!”

Although this occurred before the 2020 revision of the Code of Medical Deontology, it was a pivotal case in which the Disciplinary Tribunal addressed the question of what moderation is required when physicians publicly challenge governmental health policies. The first instance of the Disciplinary Tribunal ruled that Dr. Joyeux's speech against the government's vaccination policy constituted a breach of medical deontology and decided to expel him from the *Ordre des Médecins*. However, on appeal, the second instance reversed that decision, deciding that Dr. Joyeux had neither questioned the safety nor efficacy of vaccination as a whole, but rather “merely called for its careful use.”

The case reached the Supreme Administrative Court for a final decision<sup>25</sup>. The judges ruled that Dr. Joyeux, although a well-known physician, had used provocative and misleading language and did not display the necessary caution in communicating with the public. Consequently, the second-instance verdict was overturned and remanded for retrial purposes. Dr. Joyeux's blog shows that he is not "anti-vaccine" or a conspiracy theorist opposed to vaccines themselves and that he did not necessarily intend to confuse the public through misinformation. However, the deontological rule that physicians must "remain mindful of the potential impact of their statements on the public" is not conditioned by motive. Because physicians can gain authority from society through their title and therefore bear an obligation to make "responsible statements,"<sup>26</sup> the language used in Dr. Joyeux's petitions was considered excessive and misleading for the public. His choice of words was condemned for "informing" people in a psychologically manipulative manner that induced "consent," not because he had conveyed content opposed to the government's position.

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## 4 How to Prevent Infodemics

Let us outline the possible responses available to so-called "monsters" in Japan. Serious doubts have been voiced regarding the constitutionality of the Leviathan, the State, broadly regulating the content of physicians' speech. However, the new monster, DPFs, who pursue commercial interests, cannot feasibly replace the old monster, physicians, and become the main guardians of public health with sole responsibility for controlling health-related speech. Thus, it would be more appropriate to first expect physicians to set limitations on their own proper speech. They should recognize their professional duty to disseminate scientifically based information as part of public health ethics and establish a self-regulation system. In other words, they should institutionalize the deontology of the public health profession<sup>27</sup>.

Owing to the historical circumstances of "voluntary establishment and voluntary membership" of the medical association, in Japan, there is no single organization to which all physicians are required to belong<sup>28</sup>. Therefore, one option is to create an organization with "compulsory establishment and compulsory membership" centered on the medical profession that has a set of deontological rules and an oversight system to regulate public health discourse, adapted to the age of social networking services. It will also be necessary to establish a system of external control and integrate the organization into the health governance system.

However, this idea would fundamentally change Japan's legal framework for physicians, likely provoking strong resistance given the historical context. Therefore, another proposal would be for various voluntary

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25 Conseil d'Etat, 4<sup>ème</sup> et 1<sup>ère</sup> chambres réunies, no 4236288.

26 François Tomé, "Médecins et expression médiatique vus à travers un panorama de jurisprudence du Conseil d'État, juge de cassation des décisions disciplinaires des juridictions ordinaires", *Les tribunes de la santé*, n° 75, 2023, p. 31.

27 Satoshi KODAMA, "公衆衛生倫理学とは何か (What is Public Health Ethics?)" in 入門・医療倫理 III 公衆衛生倫理 (*Introduction to Medical Ethics III: Public Health Ethics*), Akira AKABAYASHI and Satoshi KODAMA (ed.), Keiso Shobo, 2015, p. 19.

28 Ayako KAMISATO (TOKORO), "GHQ 占領期における医師会の設立・加入体制の構築経緯 (The History of the Establishment and Membership Structure of Medical Association in the GHQ Occupation Period)", *Japanese Journal of Medical History*, vol. 50, no. 2 (2004), pp. 243-274.

organizations, such as medical societies and academic medical bodies, to work together to draft guidelines regarding physicians' speech and thoroughly disseminate those standards among physicians. Although this may not be the quickest or most efficient approach, it is the most appropriate method and a challenge for leading physicians' organizations to work together to reaffirm medical professionalism.

The above idea focused on physicians does not negate the efforts of DPFs. However, it would be necessary to avoid the risks that emerge from the measures that DPFs take on their own. Consequently, collaboration among the State, medical professionals, and DPFs is possible. Google's criteria for misinformation are based on announcements by WHO or the State health authority, and WHO has an agreement with Google to jointly combat misinformation<sup>29</sup>. It may be possible for existing medical organizations to provide science-based information to DPFs to use for fact-checking or prioritize its visibility on social networking sites. However, simply deleting information is not necessarily a good solution with regard to freedom of expression and public health. Online information can help patients compare and evaluate medical facilities, and physicians can benefit from sharing the latest research developments and case studies with peers. The problem is less about the content of the information itself than about whether physicians communicate that information in a misleading manner, especially in terms of wording, and the clear distinction between what is based on scientific evidence and what is not, as illustrated by the Supreme Administrative Court in the Dr. Joyeux case. Several initiatives can be used as references for reliable communication methods, such as fact-checking activities by private organizations.

Ultimately, each of us must receive and process information. Assuming that absolute certainty does not exist in the ever-advancing field of medicine, we must be aware of the tools we can use to distinguish between reliable and questionable information.

Having mentioned the American case in the "Proposal," we have now surveyed the French legal framework and contemplated possible responses in Japan to counter the threat of an infodemic. Although it may seem slightly disjointed, neither viruses nor misinformation heeds borders. When formulating strategies against an infodemic, medical professionals, who serve people as frontline-guardians of public health, will hopefully take the lead by reevaluating their deontology in the DPF era while also remaining attuned to international trends.

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#### \*Acknowledgement

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29 The Mainichi Japan, "WHO working with Google to combat virus misinformation" (3 February, 2020) <https://mainichi.jp/english/articles/20200203/p2g/00m/0in/077000c>.





## **Chapter 3**

# THE AGE OF AI EDUCATING HUMANS?



# A FRAMEWORK FOR THE ELSI (ETHICAL, LEGAL, AND SOCIAL ISSUES) OF EDTECH THAT UTILIZES EDUCATIONAL DATA

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Satoshi Takahashi, Yuko Fujimura, Goro Horiguchi,  
Eri Mizumachi, Masayuki Murakami, Kaito Wakabayashi

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## 1 Policies and recommendations for EdTech following the COVID-19 pandemic

This section introduces some of the trends in EdTech<sup>1</sup> that utilizes educational data generated in primary and secondary education. The nationwide closure of schools<sup>2</sup> due to the spread of COVID-19 and the promotion of the GIGA School Program<sup>3</sup> have been opportunities for EdTech to be adopted throughout Japan. Here, we will look at some policies and proposals that followed the pandemic.

In September 2020, at the peak of the COVID-19, the Working Group for the Use and Application of Medical Data, a joint effort between the Psychology/Education Committee and the Information Science Committee within the Science Council of Japan, published “Evidence-Based Learning—A Proposal for Utilizing Educational Data Through Digitization of the Classroom” (Science Council of Japan, 2020) as a policy recommendation for various government ministries such as Ministry of Education, Culture, Sports, Science, and Technology (MEXT), Ministry of Economy, Trade and Industry (METI), and the Ministry of Internal Affairs and Communications. In its report, the working group noted the importance of designing systems, preparing the data environment, and training personnel for the collection, usage, and application of academic data.

In January 2021, the Central Council for Education released “Aiming to Build Japanese-Style School Education in Reiwa—Realization of Learning Environments Most Appropriate for Individuals and of Collaborative Learning Opportunities,” in which it identified the progress thus far and emphasized the importance to figure out the best combination of ICT for improving the quality of formal education. Then, in

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January 2022, the government formulated a “Roadmap on the Utilization of Data in Education” (Digital Agency, MIC, MEXT, METI, 2022) around the vision of “applying digital technologies so that every individual can choose the services they want and live happy and fulfilling lives without being left behind.” The plan stated that the use of educational data in EdTech will continue to advance and outlined various rules, policies, and timelines for that usage.

As evidenced by the involvement of so many different ministries, the policies for EdTech that utilizes educational data are complex and not limited to a particular government agency. In addition to these, in June 2022 the Cabinet Office’s Integrated Science and Innovation Committee published a summary titled “Policy Package for Education and Training to Achieve Society 5.0” (Cabinet Office, 2022), reiterating its roadmaps for policy proposals aimed at the utilization of educational data and for developing curricula that promote digital-citizenship learning etc.

Viewed collectively, these various policies demonstrate the advancement of EdTech, the development of rules and regulations for utilizing and applying educational data, and the preparation of environments that allow such data to be used, as in the case of ICT and digital citizenship. One of the policies established after this was the “Notice Regarding the Use of Educational Data (1st Edition)” (MEXT, 2023) published in March 2023 by MEXT. This policy generally summarizes the main points that primary- and secondary-school teachers, board of education members, etc. should be aware of when handling the educational data of students, from the viewpoint of protecting personal information.

These developments are consistent with the statement by the Science Council of Japan (2020) that “there is a need to periodically reassess the usage of academic data so that it is done appropriately and not abused... to establish third-party organizations that can ethically review the design and implementation of systems that ensure that the human rights and dignity of students are not threatened...all while engaging in dialogue with citizens through the solicitation of public comments etc.” On the other hand, a subsequent addition (2023) from the Science Council of Japan in September 2023 stated that: “As data is increasingly used and applied within society, there is a need for broader discussions beyond the framework of existing policies, guidelines and laws such as the Act on the Protection of Personal Information. Before considering new laws, policies, and guidelines, we must take note of the ethical, legal, and social issues (ELSI) that appear when implementing the results of research and development within society; the global situation regarding laws and regulations related to privacy protection; and problems involving the right to education and educational freedom. More specifically, we must first ensure that the process of collecting, storing, and managing educational data remains transparent. Progress is also needed in data literacy education for users of educational data so that they understand analyses and feedback based on that data as well as its original educational purpose of use.”

As this statement makes clear, we still face the problems of how to formulate the rules and policies for using educational data and how to develop and implement ICT digital citizenship education.

## 2 Launching the R&D project related to the ethical, legal, and social issues (ELSI) of EdTech that utilizes educational data

The authors have established and conducted research and development project to identify the ELSI of EdTech and develop policies in response to them. This was done under the Research Institute of Science and Technology for Society (RISTEX)'s "Responsible Innovation with Conscience and Agility. After conducting a feasibility study titled "ELSI of Educational Technology using Student Learning Data" from October 2021 through March 2022, we launched the Practice on ELSI/RRI of Educational Technology Using Student Educational Data Project (the "Project") in October 2022. The Project is interdisciplinary featuring members from many different organizations and specialties. Some members even had prior experience with EdTech research and development, and we could capitalize on their expertise when identifying and developing solutions for the ELSI (Table 1). This article draws on part of the results of the Project.

**Table 1: The interdisciplinary members of the research and development project**

Group	Name	Affiliation	Specialty
<b>ELSI practices Group</b> (Proposes policies for responding to ELSI while conducting inclusive outreach and public engagement activities)	○ Kei Kano	Faculty of Education, Shiga University	EdTech development, public engagement
	Takayuki Shiose	Kyoto University Museum, Kyoto University	EdTech development, inclusive design
	Eri Mizumachi	Research Center on Ethical, Legal, and Social Issues, the University of Osaka	Science communication
	Masayuki Murakami	Center for Education in Liberal Arts and Science, the University of Osaka	Educational technology
	Kaito Wakabayashi	Research Center on Ethical, Legal, and Social Issues, the University of Osaka	EdTech development, ELSI research
<b>ELSI Research Group</b> (Identifies and analyzes ELSI while researching fundamental questions)	○ Atsuo Kishimoto	Research Center on Ethical, Legal, and Social Issues, the University of Osaka	ELSI, risk governance
	Nobutsugu Kanzaki	Faculty of Global Liberal Studies, Nanzan University	Ethics
	Takayuki Goto	Graduate School of Human Sciences, Osaka University	Social and educational psychology
	Goro Horiguchi	Graduate School of Law, Kobe University	Constitutional law
<b>ELSI International Comparison Group</b> (Compile cases while organizing and analyzing how they map to Japanese society)	○ Yuko Fujimura	Faculty of Education, Shiga University	Educational administration
	Hitoshi Sato	Faculty of Humanities, Fukuoka University	International comparative education
	Satoshi Takahashi	Graduate School of Human Sciences, the University of Osaka	Educational law

### 3 Submission of public comments

As part of the Project, we submitted opinions during the call for public comments in the planning stages of three policies: “Roadmap on the Utilization of Data in Education,” “Policy Package for Education and Training to Achieve Society 5.0,” and “Notice Regarding the Use of Educational Data (1st Edition).” These opinions, the responses to them, and the effects they had on the final versions are as follows.

First, we submitted the following comment on November 18, 2021, in response to the question “What do you think is important to keep in mind when using or applying educational data?” which was posed by the Digital Agency in relation to their Roadmap on the Utilization of Data in Education.

“Formulating a plan for detecting and responding to ethical, legal, and social issues (ELSI) in advance, from the time educational data is collected until the time it is utilized for any purpose of use, will be essential to promoting the usage and application of such data. Shouldn’t the government establish rules and ethical guidelines? We hope that the government can develop a framework that considers all the diverse stakeholders, not only from a legal perspective but also in terms of ethics and society.”

\* This JST/RISTEX project “ELSI of Educational Technology using Student Learning Data” is a research endeavor that links EdTech developers and ELSI researchers to explore the societal implementation of EdTech. The project plans to propose rules and ethical guidelines for dealing with the ELSI within EdTech.

This comment received a total of 21 likes. Information about the citizen comments and the discussion with experts was published on January 7, 2022 ([https://cio.go.jp/sites/default/files/uploads/documents/digital/20220107\\_news\\_education\\_02.pdf](https://cio.go.jp/sites/default/files/uploads/documents/digital/20220107_news_education_02.pdf)). In it, the comment above was mentioned as a main point, and it was reflected in the roadmap.

Next, we submitted the following comment on January 12, 2022, in response to the question posed on a survey conducted by the Council for Science, Technology, and Innovation regarding the “Midterm Summary of the Policy Package for Education and Training to Achieve Society 5.0.”:

“Formulating a plan for detecting and responding to ethical, legal, and social issues (ELSI) in advance, from the time educational data is collected until the time it is used for any purpose of use, will be essential for the conversion to educational DX and the advancement of personally optimized learning that capitalizes on digital technologies. These ELSI include questions like ‘Do we have to provide our educational data to receive personally optimized learning?’ ‘Who decides which algorithm to use when there are multiple options available, and how do they make those decisions?’ ‘Is there a framework for correcting wrong evaluations caused by inaccurate profiling?’

Shouldn’t the government establish rules and ethical guidelines for these ELSI? We hope that the government can develop a framework that considers all the diverse stakeholders, not only from a legal perspective but also in terms of ethics and society.”

\* The JST/RISTEX project “ELSI of Educational Technology using Student Learning Data” (Representative: Kei Kano, Shiga University) is a research endeavor that links EdTech developers and ELSI researchers to explore the societal implementation of EdTech. The project plans to propose rules and ethical guidelines for dealing with the ELSI within EdTech.

Then, on February 9, 2022, an overview of the results for the midterm summary survey was published (<https://www8.cao.go.jp/cstp/tyousakai/kyouikujinzai/6kai/siryos2.pdf>). The above comment wasn't explicitly referenced, but there was a response stating: "The members of the working group and executive office will read each and every one of these comments and use that information when finalizing the policy package."

Finally, we submitted the following public comment for the "Notice Regarding the Use of Educational Data (1st Edition) (Draft)" and published it on the Web. Due to space constraints, we've provided this comment at the QR code below.



While the Project's comments weren't reflected in the Notice Regarding the Use of Educational Data (1st Edition), it was published in a Yomiuri Shimbun newspaper article (March 28, 2023) because one of the members of the expert panel had criticized the haphazard handling of the public-comment process.

The reactions to our series of public comments highlight the urgent need for a response to the ELSI of EdTech which utilizes educational data as well as the fact that there was practically no room for making changes based on any public comments. This is the phase where we must mount a rapid defense against the risks that are quickly becoming a reality due to the unflagging advance of technology. But at the same time, we must also respond to hidden risks as well as those that will appear over the medium and long terms.

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## 4 Domestic and international cases

In the Project, we planned to identify the potential risks that could occur in Japan in the future. Therefore, we decided to focus on real-world ELSI cases from the United States, which has been a leader in EdTech and has already established certain policies in this area.<sup>4</sup>

In 2002, the Bush administration created the No Child Left Behind Act in the United States, one of the more advanced EdTech nations. Through the application of EdTech, educational data has been used to evaluate teachers and to analyze many aspects such as improvement in academic ability. Yet there have been some tangible instances of ELSI.

The following cases, for example, involve ELSI related to the fact that academic achievement test results were strongly tied to teacher evaluations:

- A teacher who was rated as "less effective than average" on a performance evaluation tied to academic testing committed suicide ("Teacher's death exposes tensions in Los Angeles," The New York Times, 2010)
- A veteran teacher who was rated as "ineffective" on a performance evaluation tied to academic testing filed a lawsuit that questioned the validity of such assessments (" 'Arbitrary and Capricious:' Sheri Lederman Wins Lawsuit in NY's State Supreme Court" The Washington Post, 2016)



As for the reactions to such ELSI instances, we know that there was a nationwide “opt-out” (boycott) movement among parents and students in the United States in response to the high-stakes application of state standardized testing (“Bush, Obama focus on standardized testing leads to ‘opt-out’ parent movement,” The Washington Post, 2013). It was also pointed out that parents and teachers weren’t sufficiently notified that there are rules granting people the right to opt-out from the provision of students’ personal data (“Without Consent: An analysis of student directory information practices in U.S. schools, and impacts on privacy,” World Privacy Forum, 2020), creating concerns over the improper acquisition of educational data.

Furthermore, the following ELSI cases involved the secondary usage of data:

- The results of a qualification test taken by high-schoolers for the purpose of joining the military were sent along with the personal data of students to military recruiters without the permission of parents and guardians (“High School Students’ Test Results Are Being Sent to Military Recruiters Without Consent,” Truth Out, 2016)
- A list of students with poor academic performance or behavioral problems was shared within a county sheriff’s office to identify youth who are at risk for engaging in criminal activity (“Using Student Data to Identify Future Criminals: A Privacy Debacle,” Education Week, 2020)

So, we can see that there have been cases where data from tests and surveys conducted by entities outside the school has been gathered and shared with other organizations without the consent of parents, as well as cases where academic achievements and behavior were used to profile for criminal risk.

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## 5 Policies for responding to ELSI in the United States

So, what have been the responses to cases of ELSI in the United States? In the US, individual states have authority over matters related to education, so the systems differ by state. Each state also has its own regulations that cover the handling of data connected to students in primary and secondary schools. While this makes it difficult to discuss the country as a single entity, the state regulations presuppose the existence of various federal laws related to data protection (Connect Safely, Future of Privacy Forum, & PTA 2015). Therefore, we can examine the response to ELSI at the level of the federal government.

First is the Family Educational Rights and Privacy Act (FERPA), which applies to all educational institutions that receive financial assistance from the federal government. This law ensures that parents and guardians can access the educational data of their children and places restrictions on who can access and use the data of students in primary and secondary schools. It applies to schools and universities (most public institutions and a few private schools) that receive federal assistance. The Act grants certain rights to parents, including the right to view their own children’s educational data, the right to demand correction or deletion of erroneous data, and the right to provide or deny consent for the disclosure of their children’s data. And when a child turns 18 or enters university, these rights transfer from the parent or guardian to them. Regarding this law, a California student sued Google in 2014 claiming that the company had scanned several million emails that were sent and received by students.

Next is the Protection of Pupil Rights Amendment (PPRA), a law that requires schools to notify parents and guardians and obtain their consent in advance before conducting any investigations etc. that are supported by the federal government and that involve sensitive information about the students (such as mental-health issues, delinquency, promiscuous behavior, or domestic violence). This law allows parents to prevent their children from participating in investigations and to block the collection of their children's data for marketing purposes.

There is also the Children's Online Privacy Protection Act (COPPA), a federal law that establishes certain requirements for websites and online services intended for children under the age of 13. COPPA requires companies that operate websites or apps targeting children under 13 to notify parents in advance and obtain their consent when acquiring and using the personal data of their children. It also allows parents and guardians to access any of their children's data that has been collected and to request its deletion if necessary. The law does allow teachers and school administrators to provide consent in place of parents, but only for educational purposes. This law came up in a 2018 case involving Oath, Inc. (formerly AOL, currently Verizon Media). A COPPA compliance program discovered that the company was operating an online ad exchange which auctioned ad space on websites targeting children under the age of 13. Oath was eventually forced to pay a \$4.95 million settlement.

Finally, there is the K-12 School Service Provider Pledge to Safeguard Student Privacy, a voluntary pledge through a third-party organization. The first edition was published in 2014 with the support of then-President Barack Obama, the National PTA, and the National Association of State Boards of Education. In 2020, the law was updated to reflect changes in technology, business practices, and regulations. The pledge has already been signed by 450 companies.

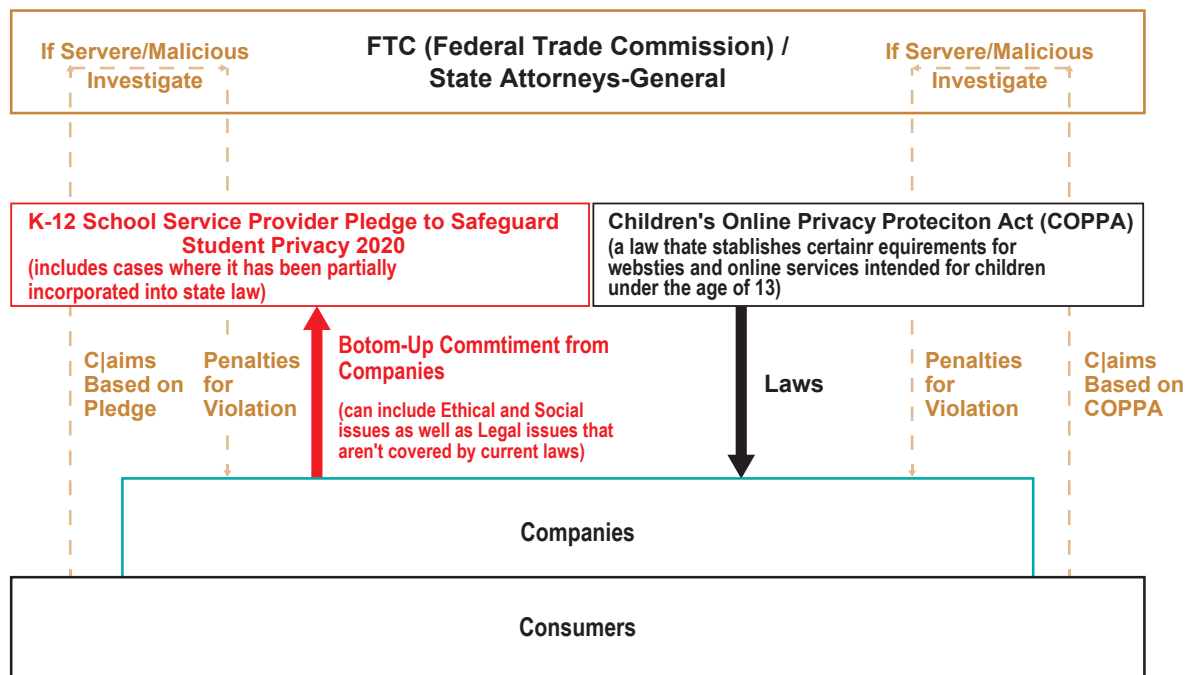
The K-12 School Service Provider Pledge to Safeguard Student Privacy is notable for being a bottom-up pledge of responsibility on the part of companies. It is a mechanism by which legal (L) issues that are not covered by laws as well as ethical (E) and social (S) issues can be addressed. Violators are subject to punishment by the Federal Trade Commission (FTC) and state attorneys-general (Figure 1).

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## 6 Scope of EdTech that uses educational data

Now, let's keep these ELSI cases and responses from the United States in mind as we consider the ELSI perspective for EdTech that uses educational data in Japan. For this, we must first determine the scope of EdTech that uses educational data.

Regarding "educational data," the 12 types of data proposed in "Evidence-Based Learning—A Proposal for Utilizing Educational Data Through Digitization of the Classroom" published by the Science Council of Japan in 2020: (1) Usage history of learning support systems (access logs for digital teaching materials, usage logs for LMS etc., contents of digital notes), (2) Usage history of digital drill exercises (responses and scores), (3) Results of student questionnaires, (4) School register data, (5) Attendance data, (6) Teaching plans, (7) Test results (mini tests, summative tests, etc.), (8) Acknowledgements related to the academic record (report



**Figure 1: Comparison of COPPA and the K-12 School Service Provider Pledge to Safeguard Student Privacy**

cards, pass/fail evaluations, etc.), (9) Results of teacher questionnaires, (10) Health observation data, (11) Daily notes, and (12) Usage of the school infirmary.

As for “EdTech,” there is the definition provided by MEXT: “Any initiative that utilizes new technologies such as AI or big data in education.” However, this scope is too broad. We therefore decided to treat the concept as four quadrants located around two axes: “Is the technology already feasible, or is it emerging?” and “Is the technology already being used, or is its usage emerging?” Since the quadrant of “The technology is emerging, but it is already being applied” doesn’t make sense, we dropped it and were left with the three quadrants of 1 “The technology is feasible and its usage is emerging”, 2 “The technology is feasible and is already being used” and 3 “The technology and its usage are both emerging”. The types and application of EdTech were 1 Edtech proficiency measurements, and their use in evaluations and entrance examinations, 2 Individual optimized learning and classification by EdTech that produces and presents individually optimized drill questions and video lessons, and 3 Confirmation of student attendance, measurement of emotions/concentration/distress/confusion, visualization of discussion content, etc., through EdTech’s use of face and voice recognition (Figure 2).

## 7 A framework for uncovering the ELSI within EdTech that uses educational data

We decided to construct a framework that would allow us to discover the ELSI present within EdTech that uses educational data. First, we established 22 items representing the educational systems and mecha-

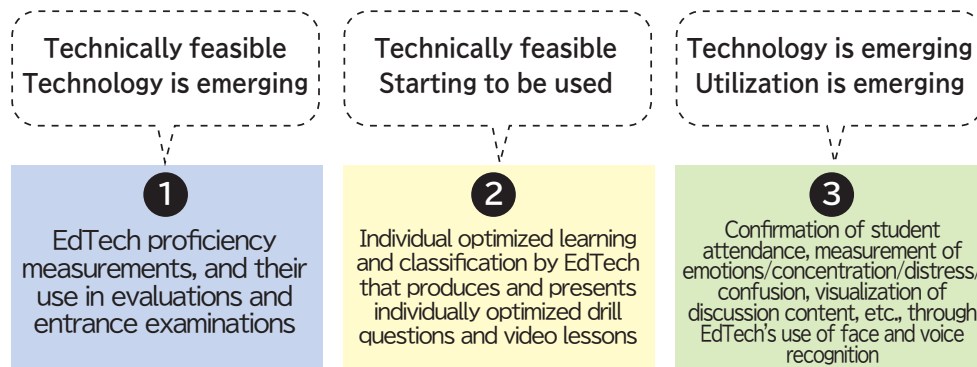


Figure 2: Types of EdTech and their applications



Figure 3: Three categories of suggested systems and mechanisms for Japanese public education (from “101 ELSI in EdTech”)

nisms listed as “unique characteristics of the Japanese educational system” in *Reassessing Public Education in Japan* (Omomo and Seto, 2020) as well as the constitutions, laws, ordinances, and cultural elements that support them. We then categorized the laws and ordinances as either “Theory” or “Regulations.” In other words, we organized the suggested systems and mechanisms for “Japanese public education” into three categories: A (Fundamental principle), B (Regulation), and C (Cultural background) (Figure 3). One of the features of the field of education is that the country’s constitution and other laws form its foundational principles. Therefore, we put ethical (E), legal (L), and social (S) issues into category A “Fundamental principle,” legal (L) and social (S) issues into category B “Regulation,” and social (S) issues into category C “Cultural background” (Figure 3).

The specific educational systems and mechanisms that were included within these three categories are listed in Figure 4.

## A Fundamental principle

	Educational system/structure considered to be "Japanese-style public education"	Specific constitutional law, legislation, ministerial ordinance, etc.
1	Right to receive education	Constitution, Article 26, Paragraph 1: "All people shall have the right to receive an equal education correspondent to their ability"
2	Free public education	Constitution, Article 26, Paragraph 1: "Right to receive education" Paragraph 2: "Compulsory education shall be free"
3	Prohibition of improper controls	Basic Act on Education, Article 16: "Education must not be subject to improper controls"
4	Prohibition of public expenditure for private education (projects, schemes, etc.)	Constitution, Article 89: "Expenditures of public money, and limits on its usage (appropriation)"
5	Respect for individual character, protection of privacy rights	Constitution, Article 13: "Personal rights" and "Right to privacy"
6	Prohibition of discriminatory treatment in education	Constitution, Article 14: "Equality under the law" and "Prohibition of discrimination"
7	Guarantee of human-based education and personality development	Basic Act on Education, Article 1: "Education must be provided with the aim of fully developing the individual character"

## B Regulation

	Educational system/structure considered to be "Japanese-style public education"	Specific constitutional law, legislation, ministerial ordinance, etc.
8	Compulsory school-attendance system	School Education Act, Article 1: "In this Act, schools shall be kindergartens, elementary schools, junior high schools, compulsory education schools, high schools, secondary schools, special needs schools, universities, and colleges of technology"
9	Limitations on parties that can establish schools	School Education Act, Article 2: "Schools shall be established only by the national government [...], local governments [...], and school corporations specified by Article 3 of the Private Schools Act [...]"
10	Specific age/grade principle for compulsory education (Course promotion principle)	School Education Act, Article 11: "Students have obligations to have their children attend elementary school [...] for six years starting from the day after the children reach the age of six years and end when the children are of the school year during which the children reach the age of 12"
11	"Seat-time" (class attendance) promotion principle in compulsory education (Credit-based promotion principle)	School Education Act, Enforcement Regulations, Article 97: "In elementary schools, approving the completion of courses for each school year and graduation must be determined by evaluating the seat grades of school children"
12	Appropriate teacher's license principle	Education Personnel License Act, Article 3: "Education personnel must be persons who have received the appropriate license certification as stipulated by this Act"
13	Law-based employment terms and conditions and guarantee of status for public servants	Every Article and item (paragraph) of the Local Public Service Act stipulated by this Act."
14	Protection of personal information of children attending school	Act on the Protection of Personal Information
15	Mass purchase of private industry educational materials	Characteristics of Japanese-style public education not necessarily grounded in law
16	Legal nature of the course of study (curriculum)	Characteristics of Japanese-style public education not necessarily grounded in law
17	Strictness of textbook screening system	Characteristics of Japanese-style public education not necessarily grounded in law

## C Cultural background

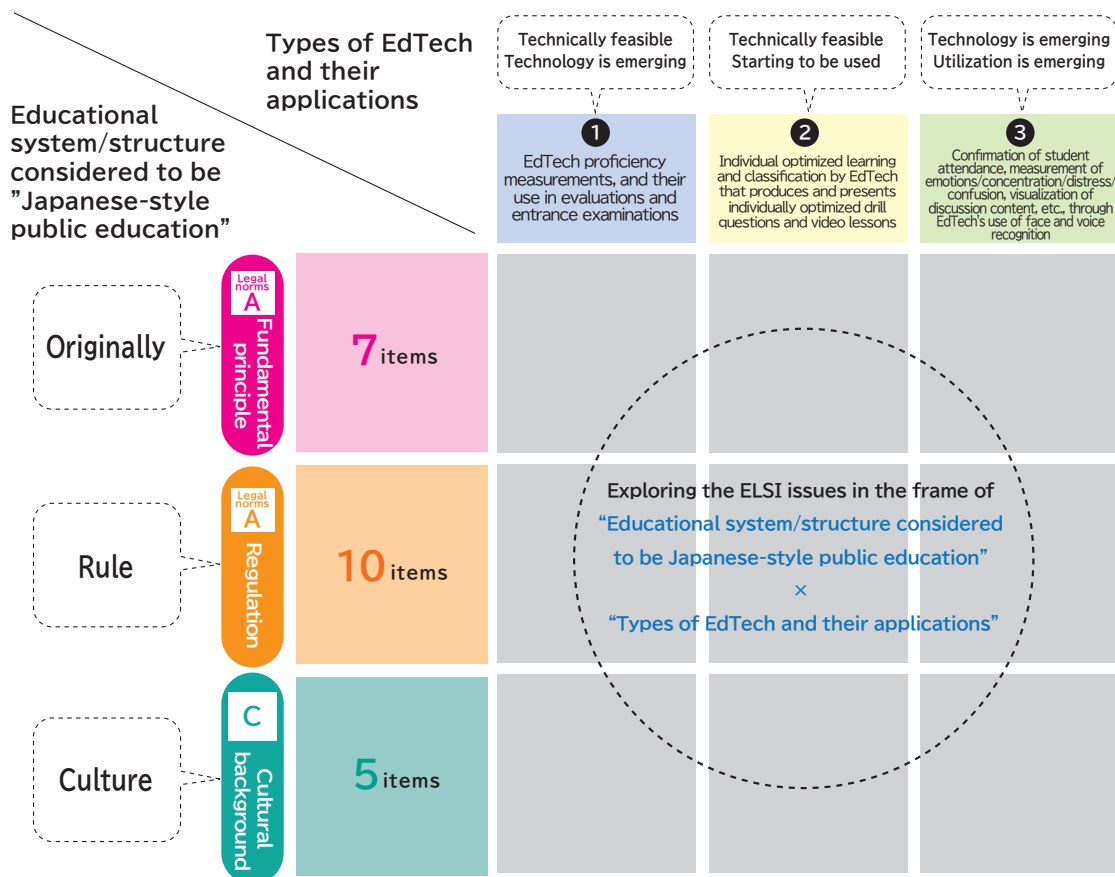
	Educational system/structure considered to be "Japanese-style public education"
18	Unequal power relationship between teachers and children/students
19	Equity rather than equality
20	Emphasis on the five basic subjects/Emphasis on subjects required for entrance examinations
21	Emphasis on life guidance
22	Emphasis on academic background in society

**Figure 4: Suggested systems and mechanisms for Japanese public education for each category (from "101 ELSI in EdTech")**

Finally, we created a framework for discovering ELSI in EdTech by constructing a 3x3 matrix featuring the three EdTech types and applications as well as the three categories of Japanese public-education systems and mechanisms that we came up with.

## 8 "101 of the ELSI in EdTech" and its implications

Using the framework described above, we identified 101 ELSI in EdTech that utilizes educational data. We also recognized the need to organize the issues according to factors such as whether they occurred during data acquisition or during usage, whether they were related to algorithms, whether they existed prior to or after the introduction of EdTech, etc., so we simultaneously organized these issues. We ultimately published the booklet "101 ELSI in EdTech" which introduces the issues we had discovered using this framework. We reluctantly omit listing them all here due to space constraints, but they include some responses to the ELSI cases in the United States mentioned earlier. For example, "Don't we need to create rules for cases where



**Figure 5: Framework for uncovering the ELSI within EdTech that uses educational data (from "101 ELSI in EdTech")**

teacher evaluations and school rankings are directly linked to the academic performance of students?" "Have the criteria for teacher evaluations been restricted to things that are measurable?"

Regarding several of the issues, a study was conducted to explore public reception via the panel members of an Internet survey company (Goto and Kano, 2023). While the results showed that people are more receptive to personalizing and optimizing learning with EdTech, they are not very receptive to the idea of implementing EdTech in a way that dramatically alters the roles of teachers, schools, and educational systems. This suggests that critical discussion is needed when implementing EdTech so that the technology is not introduced in a haphazard way without ample consideration of laws and regulations. We can also infer that students, teachers, and schools want the ability to choose whether or not to use EdTech, even after it is introduced. Any of the 101 issues could appear in Japan as well, so we will ideally continue to study and respond to them.

"101 ELSI in EdTech" was referenced within the "Notice Regarding the Use of Educational Data (1st Edition)" as well as the additional comments (2023) of the Science Council of Japan, and policy recommendations are starting to recognize that this is an area requiring further study.

In addition to discovering and studying the issues, we may also need to develop specific responses to them. Perhaps we need a law similar to the one enacted by the US federal government. But at the same time,

we must cover the areas that laws are too slow to catch up with due to the rapid advance of technology.

Moving forward, it may be prudent to consider multiple avenues for responding to these areas as they come up, including the possibility of requiring companies in EdTech to sign a pledge or establishing guidelines for schools and boards of education.

## Postscript

A portion of this research was conducted by the “ELSI of Educational Technology using Student Learning Data,” feasibility study project (JPMJRX21J8), as well as the Practice on ELSI/RRi of Educational Technology Using Student Educational Data Project, supported by JST-RISTEX Responsible Innovation with Conscience and Agility Program.

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## Notes

1. A portmanteau of the words *education* and *technology*. One definition is “any initiative that utilizes new technologies such as AI or big data in education” (MEXT, 2018).
2. Conducted from March 2, 2020, until the start of spring break. However, it continued until the end of May 2020 in areas with high infection rates.
3. GIGA is short for Global and Innovation Gateway for All. Under the jurisdiction of the MEXT, this project aims to “continually achieve fair and personally optimized learning that leaves none of our diverse children behind at every place of learning in Japan by giving each student a device along with seamless access to large, high-speed communication networks while simultaneously promoting the use of cloud-based services, building systems for the procurement and maintenance of ICT devices, popularizing excellent use cases, and fully adhering to the PDCA cycle with regard to utilization.” Due to the pandemic, the original schedule was accelerated.
4. ELSI cases can be found not only in the United States but in Europe and Japan as well. Issues other than the ones presented in this article can also be found, such as those involving behavioral data, facial images, and search histories. For more information, refer to Wakabayashi and Kishimoto (2023).
5. Can be downloaded from the following URL: <https://doi.org/10.6084/m9.figshare.25866901.v2> (Last accessed on September 29, 2024)

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## Chapter 3 - II

# ARTIFICIAL INTELLIGENCE IN EDUCATION

## : Finding Its Place<sup>1</sup>

Joël Boissière and Éric Bruillard\*

Artificial intelligence, or at least advanced IT including what is called ‘artificial intelligence’ is topical: its impact on jobs and a great number of activities is apparently quite significant. That is why numerous reports have been written on it, including Cedric Villani’s in France in 2018. As we have described in the second part, China has made it a priority, and aims to become the world leader before 2030.

It undoubtedly poses major challenges, especially in transportation, health and security, but what about education? Significant budgets are being allocated (1.5 bn Euros in France) and one of the first measures has been to reinforce higher education training on artificial intelligence and the domains it is transforming, notably Masters’ degrees in IT and engineering diplomas. As for the rest, the share for education has not been above 12 million euros (less than 1 %), which shows a rather *secondary* priority. What can artificial intelligence change in school education, in more or less formal training and in higher education?

To answer that question, we are going first to examine a few historical points. Using artificial intelligence in training is not a new idea. The first research dates back to more than half a century and we are going to present a few historical landmarks and show some major realisations and different limits that have already been well described. To some extent, it is a history of non-fulfilled promises. Is it going to be played again the same way?

We will then discuss personalisation and its two main meanings in education, and then adaptative learning. The latter is based on systems which take into consideration the student’s level and offer them things that are supposedly tailored to... quite a lot of things actually: their knowledge (on the issue at hand but also on other topics), their multiple preferences, their interests, the time they have, the level other learners have reached (which cannot be completely ignored), etc.

Next, we will study three main topics that China has chosen in its approach to AI in education: big data,

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<sup>1</sup> The chapter entitled “Intelligence artificielle dans l’éducation: une place à trouver”, was originally published in *L’école digitale. Une éducation à construire et à vivre* By Joël BOISSIERE and Eric BRUILLARD © Armand Colin 2021, Malakoff. ARMAND COLIN is a trademark of DUNOD Editeur – 11, rue Paul Bert - 92240 MALAKOFF.

intelligent learning and platforms. We will refer to the central topics of explainability and algorithm governance, which will allow us to situate challenges linked to artificial intelligence in education, and highlight that the objective in education is not that systems be clever, but that human beings may effectively better learn and in *good* conditions.

## 1 AI and education – an already old history with new ramifications

At the end of the 1990s, so-called programmed learning reached its limits – everything must be prepared in advance, and if the features of the population that must be trained evolve a little, the ‘programme’ must be changed. In addition, the ‘dialogue’ and the path that were offered to learners were quite rigid (see Bruillard, 1997, for a detailed history of that idea). Was it possible to design machines that may sustain a somewhat free educational interaction with a student, and possibly let them ask questions, present them with knowledge and ensure that they learn it thanks to an open dialogue? That was the challenge for AI, and as early as 1970 Siklóssy suggested that what he called tutors, which know what they are teaching, be designed. Integrating a solving module, the computer must be capable of resolving problems posed by the student, explain how it does so and thus teach its own methods to the student.

In line with machines that teach the programmed teaching, the word ‘tutor’ is used, for it is an individual interaction (one student, one machine), and thus a sort of tutorship and not teaching to a group of students. Dialogue is conducted in natural language and the learner can take the lead and ask questions to the machine (that is what has been called mixed initiative). Such dialogue is currently ensured by what we call a ‘conversational agent’, one of the developing uses, mainly in remote interactions.

In fields close to mathematics, another form of interaction has been offered: a step-by-step monitoring of the actions that have been realised especially in a complex calculation or the transformation of an expression. To use a medical metaphor, the interaction develops according to a cycle of diagnosis and intervention. Diagnosis is based on the collected data and techniques to analyse them. Intervention is based on teaching objectives and the techniques needed to reach them, taking into account the diagnosis. In other words, a model of the student and a model of the teaching are needed.

The building of the student models has prompted a lot of research. There are three main approaches which lead to different forms of intervention.

The first corresponds to what is called partial or overlay expertise (Carr and Goldstein, 1977). The knowledge of the student is considered as a subset of that which is aimed at. That model is quite ‘handy’ and compatible with fragmented approaches about skill acquisition: lists of skills are provided and intervention processes correspond to the discovery or in-depth learning of non-acquired skills (or non-acquired knowledge), which can often be worked upon independently.

The second corresponds to the differential models that integrate ‘false knowledge’, which corresponds to disturbances of expert knowledge. That is the case in mathematics, where a lot of students will abusively transform the square of a sum into a sum of the squares –  $(x + y)^2 = x^2 + y^2$  – by generalising what works for

multiplication –  $2(a+b) = 2a + 2b$ . Similar deviations are to be found in the teaching of a foreign language, when constructions from the mother tongue which are not correct in the target language are used. Detecting erroneous knowledge is important and means must be found to establish a good diagnosis. Then, fast intervention is needed to correct mistakes, in order to prevent their stabilisation. The best is to design a teaching model which avoids their appearance, by providing knowledge at the right moment (what Van Lehn calls the ‘felicity’ conditions). Anyway, didactic studies are needed, to spot the mistakes as well as to eradicate them.

The last approach is that of misconceptions, which is now well-established in science learning. There are many children, but also adults, who have ideas that are completely erroneous, for example, that an electric current is like the flowing of water inside pipes. Everyday life perception of physical phenomena is often in contradiction with physics theories. Misconceptions may be an obstacle to learning and it is important to know them. That is far from skill-based approaches. As in the previous case, it is important to conduct didactic studies to spot erroneous conceptions but it is not easy to figure them out.

As one can imagine, the conception and maintenance of such models is no easy task, whether it relies on a subset of a reference model (partial expertise) or on a deviation of a reference model (differential model) or on a misconception far from expert or reference models. They have led to the realisation of a few systems, IT tutors providing individualised teaching which ‘worked’ in terms of learning gains for students.

### (1) A few exemplary achievements in formalised domains

A much quoted example is the general programme *Cognitive Tutor* of Carnegie Mellon University, a teaching system which supports learning based on practise, used in different domains, especially in algebra (Koedinger *et al.*, 1987; Ritter *et al.*, 2007).

That course, created at the beginning of the 1990s, has been continuously tested in a great number of classes, from 75 schools in 1998-1999 to more than 1,400 in 2003. It was selected in 2004 by the American Department of Education for its list of technologies that ‘work’.<sup>2</sup> The software has been sold to many schools, with researchers collecting additional data and constantly refining their programme. Thanks to that continuous experimentation, according to Koedinger, research has allowed to acquire extensive knowledge on teaching and learning processes, on what works and what does not, to help students master algebra correctly.

In that case, the achievement results from the long-term collection and analysis of student works, in a discipline (mathematics and algebra in particular) where ‘correct’ solutions are easy to identify and the pedagogical objective clearly (and strictly) defined.

While the algebra tutor is an example of what has been technologically possible and implemented in schools for about three decades, another field of application of AI in education is IT tutors which are capable of conducting a ‘mixed initiative’ dialogue with students or pupils, i.e., asking them questions and answering theirs. Van Lehn (2011) has done a survey of studies comparing the efficiency of human tutorship, IT tutorship and

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2 What Works Clearinghouse

no tutorship. He has concluded that intelligent tutorship systems were almost as efficient as human tutorship.

AutoTutor is an example of that approach. It was developed by a research group on tutorship at Memphis University, initially to support Newtonian qualitative physics and IT teaching. Its conception draws on constructivist theories based on explanation, within learning, of intelligent tutorship systems which adaptively answer to the knowledge of students, and on research on models of dialogue in tutorial discourse. AutoTutor simulates the discourse models and pedagogical strategies of a typical human tutor (Graesser *et al.*, 2001) by providing information feedback, asking for more information, giving advice, and identifying and correcting erroneous ideas (Graesser *et al.*, 2004). The experiments that have been conducted show that AutoTutor can result in learning gains in multiple fields (for example, IT culture, physics and critical thinking) (Nye *et al.*, 2014). An extension of AutoTutor has expanded learning with a tutor by adding a third entity, a student agent for a three-person conversation (Graesser, 2016). More than a dozen systems have been developed based on the original AutoTutor.

Though those are promising examples, they are tightly linked to the traditional teaching of disciplines and the individual acquisition of knowledge. They are hardly linked to more participative and collaborative forms of learning.

## **(2) Is building intelligent artificial tutors the right direction?**

To realise fully adaptive tutors, knowledge must be implanted into machines for the three components interacting in the training – the discipline, the student and the teacher – answering the following questions: what, to whom, and how. That leads to articulating three models: the domain model (to be taught), that of the student, and that of the teaching. Research in AI for education, in the 1970s and 1980s, showed how complex managing teaching and learning processes are (Bruillard, 1997), revealing serious obstacles to machine-driven management.

Indeed, a first limit is the interaction model – a student facing a machine alone – which does not correspond to collective teaching as it most often happens in classes. The teaching model – tutorship – has prevailed, even though some systems have simulated the existence of co-learners (as in some extensions of AutoTutor). Trying to better understand what a teacher does in a class has revealed the great number of decisions they have to take in action, and the great difficulty in modelling them. Thus, the intelligent systems which have endured have mainly been limited to individualised learning.

Beyond important designing difficulties in the automated management of learning, the most serious obstacle is a purely pragmatic one. In order to be able to teach, machines must be able to carry out the tasks they are supposed to teach or to solve the problems they pose, in a fairly similar way to what is expected of human beings. In less formalised fields than mathematics or IT, this is really difficult to achieve, and if machines perfectly know how to perform those tasks, what interest do human beings have in learning how to master them too? Why learn what machines perfectly do? Shouldn't one learn how to do, not alone, but with machines, how to develop computationally instrumentalised activities and interact to realise complex tasks?

A last point is about student models. As we have already described, in most fields, students are not

empty receptacles that should be filled by education. They already have some knowledge, which is correct or erroneous, and sometimes fragile, and knowing what they know or think they know is important to ensure effective learning. Some mistakes are very common and studies may detect their origin, based on the features of the knowledge in question. They may be spotted in productions. AI techniques may automatically do that, but they cannot explain them without detailed analysis, and even less overcome them.

Thus research has shown the complexity of elaborating different models (of the field, the student and the teaching) and even more of articulating them. In fact, the promises of AI have dominated research on human being and IT, but it was the studies on hypertext and human-machine interaction which shaped the IT environment at the end of the 20th century. Pioneers like Douglas Engelbart and Alan Kay imagined machines that could extend human capacities, helping them in all sorts of activities (working, playing, etc.), which have now become common, especially for the young generations of developed countries.

The debate is still quite topical: should machines be made intelligent or should they be made to help human beings and be adapted to the ways of thinking and working of the latter, helping them to be more intelligent thanks to machines?

Should machines be designed so that they will automatically solve issues or provide human beings with documents and data in order for them to read and interpret them and decide what should be done? There is a similar debate about personalisation and individualised learning.

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## 2 Personalisation – two opposite visions, but that of control always prevails!

For some years, the key word in education has been that of personalisation and AI seems to be the right technology to best ensure such personalisation. That word however hides very different interpretations, or even strong oppositions, which we are now going to present.

### (1) *Personalisation – a self-evident fact used by companies but hard to define*

Many people today praise the personalisation of learning and teaching. First, the new expectations of the youth are to be taken into consideration – it is a known fact that they are bored at school, that activities and feedback should be offered to them to support them, and that they would love using so-called ‘modern’ technologies. However, on that last point, even though they are strong daily users of digital technologies, studies have shown that they fairly seldom use them to learn (see part I).

Second, educative authorities state that it is necessary to put the student at the centre, to implement a differentiated instruction, and to take into account the needs of each student seen as a singular individual. Indeed, all the children are different (disabilities, cognitive styles, learning styles, interests, aims, etc.), but how could teachers implement enough differentiation?

In order to help them, many small and big EdTech companies, as may be seen on websites, offer their help.



According to the Aurora Institute,<sup>3</sup> ‘identify students’ unique needs and address them [...] It is about optimizing learning every day and maximizing the amount of learning per unit of time’, or according to Century, ‘our IA technology understands how an individual learns best, and constantly adapts to provide the support or the challenge each student needs.’<sup>4</sup> We will come back to those statements which are exaggerated, to say the least, by trying to define the notion of personalisation.

What is personalised learning? There is not one but many definitions: as is specified in *The Glossary of Education Reform*, online resources were created by the Great Schools Partnership, ‘Because personalized learning has such broad implications, and the term encompasses such a wide variety of potential programs and strategies, it may be difficult to determine precisely what the term is referring to when it is used without qualification, specific examples, or additional explanation.’<sup>5</sup>

Not only are there multiple definitions,<sup>6</sup> but uses in class are also very diverse. However, Larry Cuban says that ‘wherever these classrooms, programs, schools, and districts fall on the continuum of personalized learning with their playlists, self-assessment software, and tailored lessons all of them work within the traditional age-graded school structure. No public school in Silicon Valley that I visited departed from that century-old school organization.’<sup>7</sup>

In any case, it is possible to list the multiple forms of personalisation, linked to the learning objectives, content, modalities, rhythms and places. The question is also who has to adapt – is it the learner or the learning system? Should a learner be provided with the adapted resources depending on their individual characteristics, objective and needs, or should they have the possibility to choose the resources that they think are the most relevant for their own learning?

## (2) Two opposite visions of personalisation

According to Justin Reich,<sup>8</sup> everybody seems to agree on the fact that learning should be personalised, that learning experiments should be adapted to each student, and that personalisation is made possible by the new technologies. However, the meaning of such personalisation is different. Is it

- ‘Using technology to give an individual diagnosis of the students’ skills on standardised tests and then apply algorithms to adaptively provide stimulating content appropriate to each student in order to help them better ‘pass these tests’?
- Or is it giving access ‘to a world of information and expertise to each student and give them the power to explore and create, and allow them to follow their interests and passions in different directions’?

There are two possibilities: either adopt the industrial model of education and give each child an assembly line or destroy the manufacture and build something else (maybe creation agencies). Reich quotes

3 <https://www.inacol.org/news/what-is-personalized-learning/> (last access in May 2024. Hereafter, the same date if not specified).

4 <https://www.century.tech/the-platform/> (last access in January 2021)

5 <https://www.edglossary.org/personalized-learning/>

6 Benjamin Herold (2019). What Is Personalized Learning? <https://www.edweek.org/technology/what-is-personalized-learning/2019/11>

7 <https://larrycuban.wordpress.com/2017/03/22/a-continuum-on-personalized-learning-first-draft/>

8 <https://www.edweek.org/education/opinion-battling-over-the-meaning-of-personalization/2012/06>

the analyses of historian Ellen Lagemann who sees the history of education in the 20th century as a fight between Thorndike and Dewey, which Dewey lost. Indeed, while the latter had some influence in many scientific fields, it is the thought of Thorndike which had the most impact on the field of education and which contributed to shape the practise of public school (in the US). For Gibboney (2006), Thorndike saw human beings like machines while Dewey saw them like life. Thorndike supported educational science based on objective measure while Dewey wanted school to look like life, even though the results were difficult to measure. Reich concludes that it would be necessary to understand why Thorndike's vision has prevailed.

Why does control prevail over emancipation? One may see a combination of reasons here.

First, the growing industrialisation of education reinforces management methods which rely on indicators. It must of course be possible to calculate the values of those indicators, which implies, or is facilitated by, small independent tasks, small steps (as in programmed teaching), corresponding to reference frames. Next, the fact that activities are *evidence-based* leads to preferring tried and tested practices, (the *good* practices), which are easy to identify. That results in a pedagogy of mastery or of the illusion of mastery, which is deployed on paths which have been meticulously marked out. In addition, the fragmentation of tasks favours the development and provision of pedagogical resources that are tailored to those specific tasks, which may be a significant support for beginning teachers or teachers who have to teach fields they do not quite master yet. For education managers, all that allows visibility and the illusion they are managing the activity of teachers and students as closely as possible. To sum up, it is that industrialisation process of education (Moeglin, 2010; 2016) which is often presented as unavoidable and which reinforces everything that is linked to control.

There is that same opposition in eportfolios, between those which are called narrative and those which rely on databases. A learning eportfolio corresponds to a finalised and reasoned collection of documents which show the quality and progress of the work of a student through some of their productions. It integrates genetic aspects (showing the evolution over time) and reflexive aspects (showing the capacity to take a critical look at what has been done). However, structuring them as databases to satisfy the needs for uniformity in the assessment data of an institution risks erasing expression creativity, which has been the standard of portfolios for years. That is a change from 'authentic and reflexive' assessment to the aggregation of data for the accreditation of two competing processes, the first one being at the level of activities and projects and the other at the level of actions and tests (lists of basic skills). An artist who designs their portfolio as a list of 'skill evidence' and not as a set of productions expressing a vision and approaches, risks finding it difficult to convince they have artistic 'value'.

In any case, the companies in a way ride the wave of the two opposite visions that have just been discussed. Thus, the *Aurora Institute* suggests the following definition of personalisation: 'Tailoring learning for each student's strengths, needs and interests – including enabling student voice and choice in what, how, when and where they learn – to provide flexibility and supports to ensure mastery of the highest standards possible'.<sup>9</sup>

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9 <https://aurora-institute.org/blog/what-is-personalized-learning/>

However, that translates into ‘utilize real-time data for feedback to intervene exactly where each student needs it most.’ In that technicist vision of personalisation, is it possible to really identify the unique needs of students and cater to them?

Changing from a teacher-centred class to a student-centred one, and optimally to a class that is in a way ‘led’ by the student, where students have the possibility to choose their rhythm, their tools, their learning objectives depending on their interests, is far from immediate. Other less technological means allow to develop personalised learning, for example in project-driven teaching.<sup>10</sup>

Machine-based learning is individualised, because, for the moment, machines cannot do anything else! In addition, a lot of data must be collected. Indeed, to have enough control, there must be some sort of fuel to make the AI engines work. Thus, a sort of vicious circle is created: in order for AI to work, there must be a lot of data, therefore machines, and regular and sustained use, but which in a way structure the students’ experience. Personalisation may become standardisation.

### **Focus: AI – fantasies and approximations!**

While discourses on AI proliferate, few of them are informed and balanced. To give an example, let us take recent media articles on the web. In August 2019, Siècle digital published an article entitled ‘Denmark: AI is used to track students’ behaviour and performance’.<sup>11</sup> That article is based on a short story broadcast by VB (Venturebeat) entitled ‘Researchers use AI to track students’ performance in online courses’,<sup>12</sup> published on the day before. The latter quotes the source,<sup>13</sup> a scientific article from the EDM (Educational Data Mining) symposium of July 2018 (Lorenzen, Hjuler, Alstrup, 2018). In that article, there is no mention whatsoever of AI. It is an analysis of log files from an online application called Clio Online, used by Danish pupils, doing clustering using usual mathematical techniques (Markov chains). When comparing what is said in the French and English Internet articles, one sees the gap that separates them from the scientific article which they claim is their reference. Almost everything that is said is approximate or even false. Thus, there is nothing about ‘tracking’ pupils, but about studying recorded files *a posteriori*. According to the French article, ‘researchers have examined the data of 14,810 Danish pupils and students.’ While the figure, 14,810, is correct, it comes from Clio Online, the biggest provider of digital content for primary schools in Denmark. They are not students. ‘The results show for example that the pupils who work on scientific projects spend a lot of their time reading. Those who learning foreign languages are usually rewarded with a good mark only if they work intensively.’ But what the scientific article shows is that ‘participation in quizzes seems to increase pupils’ performance in languages more than in other subjects, where reading texts is more important.’ Last, in order to avoid tedious comparisons, let us simply quote the conclusion: ‘In a close future, they hope they will deploy a system which could be used to track changes at class scale over time, in order for teachers to adapt their lesson plan to each pupil.’ However, as we have seen, there is no real-time tracking, and one can only hope

10 See for example <https://siecledigital.fr/2019/08/27/danemark-lia-est-utilisee-pour-suivre-le-comportement-et-les-performances-des-eleves/>

11 See for example <https://www.gettingsmart.com/2018/03/personalized-learning-experiences-why-and-how/>

12 <https://venturebeat.com/2019/08/26/researchers-use-ai-to-track-student-performance-in-online-courses/>

13 <https://arxiv.org/pdf/1908.08937.pdf>

to: 'Help teachers to encourage an optimal behaviour of pupils, for example by recommending training quizzes for pupils studying languages, or by making sure that pupils have more time to use the system at school.' It is difficult to find that many errors in such a short text! There are fewer of them than in the English article on the Internet, which shows degraded quotation.

### 3 Big data in education, what can collected data reveal and to whom?

Teachers and trainers should agree: it is important to better know the other in order to teach and learn better. Thus, it is useful to know what students or learners have done before, their history, what they know, what they can do, their environment, their constraints, their aim, their objectives... If the needed information is not available, in an in-person class, it is possible, before introducing a new notion, to ask them whether they have already come across it, what they know etc.. The idea is to ensure a sort of co-adaptation and to establish a trusting relation between teacher and students.

In today's vocabulary, that will translate into collecting data on learners. Having data is better than having none. But if one already has the data, is it better to have more of them, is it necessary, useful?

In a naive technical vision, one may think that the more data the better. However, that is far from self-evident and the popular expression 'too many data kills the data' could apply.

Indeed, collecting data is not a neutral process, it may change the pedagogical relation. It can never be complete – thinking it is complete is an illusion, and prevents thinking about the nature of the partial data that have been collected: what is revealed, what remains hidden? The very objective of the collection must be questioned: is it control, full transparency (panopticon) that is aimed at? Then several capacities are at stake, those of data processing, those of the interpretation (of the data and the results of the processing) and those of the intervention.

We are now going to specify what *big data* means for us, and give a few examples of what their collection and processing may yield in education.

#### (1) *Big data need specific infrastructures*

What are *big data*? They are the flow of data which have three main characteristics: they are really bulky, very diverse and real-time. The expression used is 3Vs: *Volume*, for how big the data are; *Velocity* for on-the-fly speed, collection and processing; *Variety*, for structured, or not structured, data.

The progressive addition of other characteristics has resulted in new words being added which all start with the letter V. There are the 5Vs, including *Visibility*, for easy-to-access-and-use data, and *Veracity* (data quality): visible data allowing to conduct good analyses (taking the right decisions). Then the 7 Vs, with *Variability* (context), differences in nature or judgement and *Value* (utility): changing data, interesting processing.

There are also the 10Vs with *Volatility* (freshness and preservation), *Vulnerability* and *Validity*.<sup>14</sup>

Strangely enough, on an American website,<sup>15</sup> the characteristics of the 10Vs are different, with *Venue* (where data come from, their owners, and access constraints), *Vocabulary* (data models, ontologies, taxonomies...), *Vagueness* (confusion even in the field of *big data*!).

In 2017, there was even the famous 42, a mythical number,<sup>16</sup> with a list of the 42 *V's of Big Data and Data Science*.<sup>17</sup> A figure, from the same page, gives the list of the Vs used (in English) and the date of their first appearance. There are 15 of them, due to the different interpretations of the 10Vs depending on the commentators!

In any case, managing those *big data* necessitates big storage space, interfaces for real-time collection, organisation, processing and data visualisation software. No classic tool for the management of databases of information management can really work on those very large set of data, which has led to the creation of open-source specific infrastructures such as *Hadoop* or *Spark*.

It seems that the origin of reflections dates back to 2005, when people became aware of the quantity of data that users generated on Facebook, YouTube and other online services.<sup>18</sup> It is marketing that is at the origin of orientations and directs them. Is it really about education or behaviours that big companies are trying to regulate?

## (2) Collecting many data in education – processes that are hardly convincing

If it is possible to collect a lot of data, what does it bring to education? We are going to discuss that possible input with several examples.

### a. Passing a MOOC – clicking enough times?

The first example is linked to MOOCs, those massive open online courses, which have been briefly presented in the first part of this book. When they were launched in the media in 2011, they were presented as supports for a major evolution, or even a revolution. Massive teaching, of course, but with a promise – that of personalised massive teaching. Indeed, by recruiting dozens of thousands, or even hundreds of thousands of participants, who would leave big quantities of automatically collected data, the processing of those data would allow constant improvement of classes for each new edition, especially thanks to knowledge of mistakes and remediation strategies which would be efficient.

Ten years on, the results should be impressive. Justin Reich, who had access to the data of the MOOC of the MIT and Harvard (platform EdX), deduced from it major laws on learning, with a sort of irony. Roughly speaking, the more things a student or a pupil does, the better their chance at passing. Of course, it is a statistical ‘law’, since some pupils work a lot without success, while others succeed without working a lot.

<sup>14</sup> <https://le-datascientist.fr/les-10-v-du-big-data>

<sup>15</sup> <https://mapr.com/blog/top-10-big-data-challenges-serious-look-10>

<sup>16</sup> 42 is the answer to *The Ultimate Question of Life, the Universe, and Everything* in Douglas Adams’s work entitled *The Hitchhiker’s Guide to the Galaxy*, without what the question was being precisely known.

<sup>17</sup> <https://www.kdnuggets.com/2017/04/42-vs-big-data-data-science.html>

<sup>18</sup> <https://www.oracle.com/fr/big-data/what-is-big-data.html>

In MOOCs, that law (tested with the quantities of retrieved data), can be simply translated into: the more a student clicks the better their chance of passing.

In fact, a first difficulty with the large amounts of data from MOOCs is that the most tested and tried and used methods of data analysis, which are based on tests and regressions, are saturated by the volume of data. A second difficulty lies in the nature of the retrieved data: they are first and foremost behaviour data, which are linked to the interaction with numerical systems, much less learning data. Besides, there is a lack of interpretation models. A Mexican colleague (Tech de Monterrey) thus reported the data analysis they conducted on the MOOCs launched in Mexico. They discovered that learners who eat chicken achieve better results! Behind such a result, which is quite difficult to interpret, there may be a hidden variable (a socio-economic one) or associated elements which are still to be clarified. In any case, that correlation is not a causal relationship, and one should not encourage pupils to eat chicken to improve their school results.

The very notion of achievement is different depending on the point of view. For a learner, everything depends on their real or supposed objectives. That may be getting a certification, or simply reaching the end of the course, or learning a few elements they are interested in. Those in particular who teach the topic of the MOOC may be quite happy to learn specific skills, to perfect their knowledge of elements they know little, etc. The teachers and designers of the MOOC are more interested in knowing what the participants have been able to learn. As to the platform managers, their achievement or its measure is first and foremost linked to the persistence of participants – the more they connect, the better.

We here confirm there is some uncertainty as to the objectives: is it about helping people learn or controlling their behaviour? Marketing or education? We will come back to that.

In his PhD on MOOCs, Cisel (2016) has managed to extract a very good indicator of MOOC training completion, by using the marketing concepts of entry key and registration behaviour. If someone registers for a MOOC by looking for a specific product (entry key product), they are more likely to finish it than if they have chosen it when surfing on a MOOC platform (entry key platform).

#### **b. Better mastering of word processing and spreadsheets?**

Having a lot of data is one thing but what is the aim of their processing.

The Microsoft company has hired ethnologists to study how people use their products (especially during air travel). They have also retrieved massive data from users from all over the world for many years. When one installs a product, the person in charge of that installation may simply tick a box allowing to upload user data. With that massive amount of information, one could think that the company could get quite an in-depth knowledge of the users' behaviours and find the keys allowing them to be more efficient in their uses, especially by identifying the concepts that have not been well understood or mastered, which renders their use far from optimal.

However, that is not what can be seen, far from it, and many users lose a lot of time because they do not understand how some things work. What has Microsoft done with all those data? Improved word processing and spreadsheet skills, or kept users in routines which are not always efficient but give the impression of something intuitive?

### c. Who needs big amounts of data?

In the above examples, one can see that having massive amounts of data is far from enough to improve education, either because their very nature does not allow the wanted processing, or because the very aim of the processing is not directly oriented towards learning improvement.

At the national or international level, there are different campaigns of test-based data, like PISA (International programme for the monitoring of pupils' knowledge), TIMSS (Trends in Mathematics and Science Study) or NAEP (Programme of progress assessment in the American education system) in the United States. Though many data are collected in respect of a country, that is far from what is called *big data*. Well-mastered data collection and statistical processing by agencies yield fairly reliable results, which give information on the main trends of the education system. Simplified forms are also broadcast and feed national debates on achievements and difficulties encountered by the education of the people. Thus, one of the main results of the 2018 PISA inquiry was to confirm the very unequal feature of French education. 'France is the country where the socio-economic background best explains progress in scores.'<sup>19</sup> Data analysis, sometimes with AI approaches, may be very useful to find the characteristics of children who may become disengaged in order to implement prevention policies.

That type of inquiry does not necessarily give concrete elements to teachers in class, except if they are provided with information they can use. Researchers working on AI and learning are not always interested in big amounts of collected data, but rather by regular targeted collection in classes, like what has been done around the *Cognitive Tutor*.

*A contrario*, as we have seen, the companies which work on 'digital change' will more or less say the same thing. According to them, so-called adaptive learning is going to give a new impetus to education thanks to the volume of collected data and AI – it is going to be possible to precisely track progress and better apprehend individual needs: 'AI to personalise education depending on everyone's needs.' But 'That school should have digital tools that will allow it to identify the needs for support of each student'<sup>20</sup> (According to France, SCC).<sup>21</sup>

Indeed, the implementation of data collection and its analysis imply that students work on connected digital systems – thus, the necessity for companies to push school into that direction. An *industrial* vision of education leads them to offer solutions which can apply everywhere and the students' adaptation is always carried out within an imposed frame. Consequently, 'that personalisation is quite strangely even more uniformed than traditional teaching'. Indeed, there is significant fragmentation in education (teaching practices, disciplines, content, methods and student typologies, with language and cultural variants), which slows down automation (Olivier Ezratty).<sup>22</sup> But to develop personalised education, scale must be taken into

19 [https://www.lemonde.fr/societe/article/2019/12/03/pisa-2018-les-eleves-francais-legerement-au-dessus-de-la-moyenne-de-l-ocde-dans-un-systeme-toujours-tres-inegalitaire\\_6021440\\_3224.html](https://www.lemonde.fr/societe/article/2019/12/03/pisa-2018-les-eleves-francais-legerement-au-dessus-de-la-moyenne-de-l-ocde-dans-un-systeme-toujours-tres-inegalitaire_6021440_3224.html)

20 <https://france.scc.com/news/lia-pour-personnaliser-leducation-en-fonction-des-besoins-de-chacun/>

21 <https://france.scc.com/a-propos/>

22 <http://www.magrh.reconquete-rh.org/index.php/articles/formation/455-les-applications-de-l-intelligence-artificielle-dans-l-education>



account. The best way to do so is normalisation, and the latter is the enemy of personalisation (Peter Greene).<sup>23</sup>

Who can then wish for personalised education? Isn't it subject to commercial logics (Alexandre Roberge)?<sup>24</sup>

## 4 What does AI bring to education actors?

How can those technologies work in class? Using digital personalisation programmes necessitates working a good part of the time alone with a computer, and, according to companies, the longer a student spends on the platform the better AI manages to refine its propositions based on what it knows about them. All that time on machines may be problematic. But AI may also, as is often said, help teachers diversify the activities with their students.

### (1) Debated uses in class

Indeed, some implementations in schools spark off debates. Thus, an article from the *New York Times* on the use of a Facebook programme named *Summit*, is entitled 'Silicon Valley Came to Kansas Schools. That Started a Rebellion':<sup>25</sup> headaches, hand cramps, anxiety. 'We allow computers to teach and our children all look like zombies'. More than three quarters of the persons interviewed in an inquiry have declared they preferred their children not to be in a class that uses the *Summit* programme.

A more detailed report (Boninger, Molnar and Saldaña, 2020) confirms those concerns and explains that significant funding (close to 200 million dollars from the Chan-Zuckerberg Initiative, the Gates Foundation, and others) has led to one of the most prominent personalised digital programmes in the US. 'Its rapid spread, despite a lack of transparency and no convincing evidence that it may keep its promises, provides a powerful example of the way political decision-makers are challenged when they are confronted with a well-funded and self-serving pressure for schools to adopt digital programmes of personalised learning.'

Some schools use 'Playlists' curricula, which are some sort of reading lists, given to each pupil each morning (the list of activities they have to perform on their computer) in order to personalise the pupils' learning, but that technology is neither cheap nor tried and tested.<sup>26</sup>

The question really is that of the role of the teacher and of the control they are capable of exercising, or not: what are the data flows which reach them and the decisions they delegate to a system, or not?<sup>27</sup>

### (2) Giving teachers control – the Villani report (2018)

The Villani report is clearly against approaches that put the teacher aside. It is not a question of yielding

23 Scaling Up Personalized Education, Peter Greene, <https://www.forbes.com/sites/petergreene/2018/09/10/scaling-up-personalized-education/#127e0c3f735e>

24 <https://cursus.edu/articles/42761/qui-veut-dune-education-personnalisee#.XYDSq2bgqUk>

25 <https://www.nytimes.com/2019/04/21/technology/silicon-valley-kansas-schools.html>

26 <http://www.edweek.org/ew/articles/2017/03/29/curriculum-playlists-a-take-on-personalized-learning.html>

27 Ed Week, Michelle R. Davis, November 5, 2019 : <https://www.edweek.org/technology/q-a-the-promise-and-pitfalls-of-artificial-intelligence-and-personalized-learning/2019/11>

to the control of some AI and entrusting it with decisions, but of developing what is called an ‘empowering complementarity with AI by reinforcing the place of creativity in teaching’.

To this end, it is important to promote the teachers’ mastering of dashboards presenting the data processing of their students and the student’s mastering of their own learning data. It is also important to ensure that AI is not used for surveillance or increased optimisation of performance purposes, but to increase the teachers’ power to act in their teaching freedom and dialogue with learners.

More concretely, in order to facilitate the exploitation of learning data by actors (learners and teaching team), the Villani report suggests identifying the relevant data, facilitating access to them and their enrichment, while respecting the rights and interests of learners. Let us note that, according to a study by Barabara Means (2010) on the use of technologies in class, it is the capacity to use the reports on the data generated by software which makes a difference, in terms of learning gains and efficient class management.

However, if teachers are expected to use the students’ data to improve the efficiency of their practice, they will have to be helped to do so. That issue is not tackled in the training programmes (Means, 2010), and what seems to be true in the USA is also true in France. The nature of the teachers’ skills and difficulties in terms of data use should be understood to provide the training and support they need. Giving teachers the means to use the data appropriately and ethically is a responsibility which must be borne by all those who prepare and support teachers and future teachers.<sup>28</sup>

Indeed, personalisation in education is first and foremost local, it is an *end-of-the-chain* adaptation, made by teachers. The question is how to help teachers to do so. It is possible to think that the (locally) processed data allow the teachers to identify the strengths and weaknesses of a group of students, the parts of a lesson that have been well assimilated, or not, and their level of attention, in particular for the integration of students with disabilities and disorders. Are there enough data in education?

Help them save time? A study by McKinsey suggests finding means to reduce preparation time.<sup>29</sup> In particular, AI could give them access to educational resources and suggestions of activities, adapted to their students. We will see in the next chapter on teachers that it is not that simple. If systems of recommendations are put in place, commercial interests may disturb the system. Then, if teachers do not have the possibility to adapt the resources themselves, they may not appropriate them enough.

However, the teachers’ working environment and the circulation of data on students should be thought anew for teachers to take advantage of it.

### (3) Explainability – an essential requirement for educational resources

Health is one of the flagship domains of AI applications. AI is a bearer of improvement promises, especially about the automated analysis of photos and pictures to spot the signs of pathologies (see for example the website of INSERM<sup>30</sup> which provides an interesting overview). However, for them to be acceptable, or

28 [https://datafordecisions.wested.org/wp-content/uploads/2016/08/2016\\_Teachers-Learning-How-to-Use-Data.pdf](https://datafordecisions.wested.org/wp-content/uploads/2016/08/2016_Teachers-Learning-How-to-Use-Data.pdf)

29 <https://www.mckinsey.com/industries/social-sector/our-insights/how-artificial-intelligence-will-impact-k-12-teachers>

30 <https://www.inserm.fr/information-en-sante/dossiers-information/intelligence-artificielle-et-sante>

even set aside for not being relevant, the solutions suggested by the machine or the algorithm must be understood and, for that, there must be access to the machine's 'reasoning' or the machine must be able to provide explanations. That is especially necessary to allow the doctor to discuss with their patient and give them the possible alternatives.

The issue of the explainability of 'AIs' proposals is an increasingly strong requirement. However, while digital approaches have been skyrocketing for dozens of years, what is called *deep learning*, i.e., networks organised in different layers, exchanging with one another, learning in a more or less supervised way, in most cases the 'machine' cannot justify its decisions: nobody knows what the algorithm does. How is it possible then to be responsible for a medical decision?

There are many publications on it, which first shows the mistakes that have been made (Heaven, 2019), the biases that have been noticed, the prejudice of an era, those of the designers, the overrepresentation of a category of persons, etc. Standard deep learning is not enough and researchers think classical approaches of AI and neuron network ones should be combined, for example by integrating causal models (Vasudevan *et al.*, 2021).

In any case, that requirement of explainability has led to a line of important inquiries, which are difficult to conduct, since beyond the strictly scientific aspects, identifying the 'right' level of explainability for a given situation depends on technical, legal and financial considerations (Beaudouin *et al.*, 2020).

For training purposes, it is central. The already old example of Mycin is characteristic. The Mycin system, created at the beginning of the 1970s, is an expert system based on rules, used to diagnose blood-clotting related illnesses. The use of Guidon (Clancey, 1983), a teaching system based on Mycin, has allowed to show that expert systems, which are above all designed for their expertise capacities, are not *a priori* good teaching systems. That is not linked to shortcomings in the teaching strategies, nor even to the very types of knowledge that are impacted in them, which are enough for experts but not for beginners. The latter need models (of a causal type) which explain the different rules of expertise that have been acquired through experience. Indeed, the compilation of the expert's strategy leads to an extremely condense reasoning, hardly understandable by a student, who thus has difficulties making sense out of those very heterogeneous rules.<sup>31</sup>

That shows how necessary explainability is and that black boxes are not adapted to teaching. It is also what Rosé *et al.* claim (2019), when they see that models are increasingly complex, often involving thousands or more parameters. With 'black-box' systems, it is not possible to look inside to try and understand how, why or whether those systems will work when they are applied beyond the data on which they have been built. Thus, explicative learning models, which, in addition to precise predictions, provide interpretable and usable information, should be developed.

However, the question can legitimately be asked whether some new trends in training are not going in the opposite direction of that requirement of explainability – the objective is not to lead the learners to discover and understand new things, but rather to adopt new behaviours, even though they may not be clearly aware of that.

31 <http://tecfaetu.unige.ch/staf/staf-d/joye/staf11/IA/clancey.html>. Joints quelques écrans (Boundless.ai et Century.tech)

#### (4) Is changing behaviours teaching's purpose?

'Imagine that I could make you do what I wanted you to do without you realising that I was even involved. All I would have to do is to rearrange the information around you in ways I know would lead you in the direction I desired. I could change the sequence of the choices you have to make, and use my knowledge of your susceptibilities and weaknesses to choose the appropriate time and method of delivering my *nudge*.' (Sætra, 2019).

That quotation comes from the introduction to an article entitled '*When nudge comes to shove: Liberty and nudging in the era of big data*'. The nudge theory, developed by behavioural economist Richard Thaler and jurist Cass Sunstein,<sup>32</sup> refers to a method of influence trying to change human behaviour, especially as to decisions or choices to make, without constraint, obligation or sanction. According to Ambrosino *et al.* (2018), that theory is 'based on behavioural economics and the idea that people have a limited rationality, that they often do not have very defined preferences and that they are under a certain number of prejudices, which lead them to make choices that are not in their own interest, and even sometimes against their will.'

This is very close to so-called persuasive technologies (Fogg, 2009), conceived 'to change the users' attitudes or behaviours, through persuasion and social influence, but not coercion', presented in the first part of this book.

An increasing number of scientific publications analyse that notion of nudge, especially from the perspective of ethics. Indeed, *nudging* is more and more efficient, for three reasons: (1) data more numerous about persons, which makes it possible to *nudge* them more efficiently; (2) increasingly sophisticated theories on human behaviour, targeting human vulnerabilities; (3) channels (social networks, online advertisement, geo-location, etc.) giving means to target each person individually. To use a military metaphor, nudge resembles surgical strikes more than the carpet bombings of the past, which makes it more efficient.

The notion of behaviour is at the heart of the new, neobehaviourist approach of education – new data on behaviour, and new ways of modifying or controlling it. Indeed, we have seen that many of the data automatically retrieved from platforms were behavioural ones.

Companies clearly aim to modify behaviours. In the previous chapter, we presented memory anchorage and its link with the adoption of new automatisms.<sup>33</sup> Similarly, the Boundless Minds company uses AI and neuroscience to shape, predict and analyse human behaviour at a neurological level. It was bought in 2019 by Thrive Global. One of the slogans of its presentation was: 'Brains can be programmed; you just need the code'. '*Boundless technology changes peoples' behaviors, beliefs and being.*'

'Modify your users' behaviour in a predicable way thanks to AI. We are changing the way human beings interact with their devices and we are proud of being leaders in the field of persuasive and behavioural technology.'<sup>34</sup>

As we have seen with MOOCs and Justin Reich's analyses, 'We have terabytes of data on what students

<sup>32</sup> See [https://fr.wikipedia.org/wiki/Nudge\\_\(livre\)](https://fr.wikipedia.org/wiki/Nudge_(livre))

<sup>33</sup> <https://www.woonoz.com/blog/attention-ancrage-reflexe-formation/>

<sup>34</sup> La firme Boundless.ai a été rachetée par Thrive Global. On trouve encore <https://www.linkedin.com/company/boundlessai/>

click, but little understanding of what changes in their heads'. However, if the objective is to shape behaviours, that lack of understanding is not prohibitive.

The combination of principles from neuroscience (repetition, distributed learning) – which are compatible with modes of working made up of successions of short fragmented periods of time – with personal technology, i.e., the smartphone – which is close to the body, constantly at hand, communicating with a data-receiving platform that conducts analyses via algorithms (based, or not, on AI) and sends nudges back – may produce systems that can 'predict and shape human behaviour', at least partly. Users, confident with interfaces they think are intuitive, will become consenting and obeying partners.

In a book dissecting the links between the neuron networks and the neoliberal theories developed by Hayek, Pablo Jensen (2021) explains that their convergence leads to a '*manageable man that is highly governable* by market signals or other nudges'.

Is this taming or education? What are the objectives of education: simple modification or adaptation of behaviours or deeper form of emancipation?

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## 5 Should platforms without intermediation but with significant funding be regulated?

The notion of platform is crucial in the current digital economy and education hardly escapes it. If we go back to the example of China described in the second part, we can have an idea of some characteristics of the AI market in education, which we are going to examine after a few ethical and political considerations.

### (1) Debated ethical and political questions

Indeed, collecting and processing big amounts of data allows to feed predictive, but not explicative, statistical models: such configuration is likely to yield such result, without it being possible to provide reasons for such a link. As Antoinette Rouvroy underlines (2009, 2011), the myth of foreseeability may lead to new forms of government which may be quite oppressive under cover of transparency. Pending causal, explainable models, one may wonder what regulations to implement.

Ethical issues are mentioned a lot, especially because AI may lead to the loss of many jobs and to problematic forms of governance by machines. Thus, the Declaration of Montréal for a responsible development of AI pursues<sup>35</sup> three objectives:

1. Elaborating an ethical framework for the development and deployment of AI;
2. Orienting the digital transition so that everyone may benefit from that technological revolution;
3. Opening a space for national and international dialogue in order to collectively achieve an inclusive, equitable and environmentally sustainable development of AI.

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<sup>35</sup> <https://www.declarationmontreal-iaresponsable.com/la-declaration>

More specifically about the ethical aspect of AI in education, let us note that reflections are quite old already, and one of the first text about it (*Ethical Guidelines for AI in Education: Starting a Conversation*)<sup>36</sup> is dedicated by the authors (Aiken and Epstein) to a French researcher, Martial Vivet, one of the pioneers in that field. An institute for ethical AI has been created at Buckingham University.<sup>37</sup>

Thus, since digital machines and networks are now part of our lives, it is important to regulate their action. The issues of training people and regulating organisations are not opposed but complementary. Maybe the machines' capacities for reading, writing and processing should be limited?

The risk behind uncontrolled implementations based on a lot of AI is to confine students to highly stressful working conditions, as the example of the use of the *Summit* programme in Kansas shows (Boninger, Molnar and Saldaña, 2020), constant competition, even at an early age, leading to depersonalised education.

Some in the USA, like the Brookings Institution,<sup>38</sup> see it as an unavoidable direction of education, referring to the country's keeping its supremacy in the race to AI technology.<sup>39</sup> However, they admit that such a system may leave a lot of students 'behind', which raises deep moral issues and political leaders need to understand the underlying dynamics of the technologies in question. Others think that public interest should be protected by putting in place surveillance and responsibility mechanisms linked to digital platforms and personalised learning programmes (Boninger, Molnar and Saldaña, 2020).

## (2) What AI in education?

When looking at the analysis of the developments of AI in China and what may be observed in the big digital companies, some trends appear. To conquer a big enough market, it is necessary to rely on a platform to attract customers, win their trust, create their loyalty, provide them with free resources and services, favour the constitution of communities (students, teachers, parents) and collect quantities of data. In China, the Wechat application (which is considered as a mode of living) encourages the link between communities. Then there is a double market, that of control (of schools by the State) and that of individual achievement (families). The latter is favoured by the competition among children and high-stake tests (importance of homework in China and Gaokao). Families and persons are ready to pay for coaching and personalised help, the efficiency of which partly depends on the processing of the large amount of collected data.

**Focus: Some control measures of online education have been announced by the Chinese government (May 2021).**

It is difficult to attribute the recent regulations to respect for ethical questions, but the Chinese government is intensifying its control measures and, sometimes, repression against its online education industry, forcing start-ups, which are often supported by big highly profitable groups like Tencent and Alibaba (though they may not always be very efficient from a teaching point of view) to put their multi-billion-dollar projects of quotation on

<sup>36</sup> International Journal of Artificial Intelligence in Education (2000), 11, 163-176.

<sup>37</sup> <https://www.buckingham.ac.uk/research-the-institute-for-ethical-ai-in-education/>

<sup>38</sup> <https://www.brookings.edu/about-us/>

<sup>39</sup> <https://www.brookings.edu/research/why-we-need-to-rethink-education-in-the-artificial-intelligence-age/>

hold. Officially, it is done to reduce the huge pressure lying on children through private lessons – ‘mind-numbing online courses with uncertain benefits.’<sup>40</sup> For that, some measures should be taken – imposing time restrictions after school, forbidding online courses for under-6 children, limiting school fees, improving course quality (qualification of teachers) and controlling aggressive and dishonest advertisement.<sup>41</sup> Thus, several companies have supposedly hired the same actress to act as an English and mathematics teacher on their platforms. In one of those online videos, the actress sings the praises of a 33-hour long contract of direct lessons which only costs 8 dollars. She warns that the absence of lessons has consequences and states that ‘parents themselves may be ruining their own children.’<sup>42</sup> That calls to mind the regulations of 10 years ago in South Korea (see part I). There are also concerns about the widening gap between the poor and the rich, i.e., those who can afford additional courses. The Chinese EdTech have an interest in education in rural areas through philanthropist projects. That allows them to test new technologies, which schools could not finance, and build trusting relations with future consumers and local governments.<sup>43</sup> According to a European report on education technology in China (Feijoo et al., 2021), the will of the latter to reduce the educational gap between the areas without infrastructures and urban zones could create economy of scale for affordable and technologically advanced innovations from which Europe could draw inspiration. While it is difficult to precisely predict what is going to develop in China and be exported, some dynamics have undoubtedly been created and will make offers for education. A foresight article on the use of platforms in Swedish schools (Hillman et al., 2020) debates the replacement of an American platform (which they call Poodle) by a Chinese one. The latter is supposedly well accepted, especially since it is well-adapted to support group work. Its economic model is not linked to advertisement, but to better course choices and better preparation of young people to being hired in partner companies. The risk is to replace a curriculum which is supported by democratically treated and negotiated values by a learning course created by commercial interests and algorithms.

In France, a quick assessment shows little interest in AI for school so far, or few data available (before the possible implementation of a ‘data education hub’), some closure with the GDPR, and no training of teachers. Educational publishers seem not to be prepared and little interested, and private lessons, with a few exceptions like *Educlever*, need few data. It remains to be seen what effective ambition the AI strategy in education, which has been announced by the State within the strategy of accelerating ‘education and the digital’, will have.

To conclude, what challenges linked to AI in education may be retained? First, make good use of it for what it can offer to analyse the main trends and spot recurrent features behind the large amount of data, contributing to direct general policies. Second, help education actors improve the conditions of good learning respectful of persons.

To do so, avoid the temptation of control, but be aware of the ambiguous nature of the collection and processing of students’ data – if there is little change for students, because the educational system does

40 <https://fortune.com/2021/05/31/china-edtech-private-tutoring-ipo-delay-crackdown-student-overwork/>

41 <https://kr-asia.com/what-the-world-could-learn-from-chinas-edtech-crackdown>

42 <https://fortune.com/2021/05/31/china-edtech-private-tutoring-ipo-delay-crackdown-student-overwork/>

43 <https://thediplomat.com/2020/12/edtech-in-rural-china/>



not manage to value them, this will only allow to control teachers. Avoid believing in the superpower of machines and their capacity to *understand* the needs of human beings. Thus, some mathematicians have obtained a strange result on automated learning – the capacity to be learnt may be unsure<sup>44</sup> in the sense that it cannot be proven or refuted by using the standard mathematical axioms, which gives a scientific limit to what a machine can do.

Following Paul Emerich France, who has worked for several years in the USA in a school using personalised teaching and has turned away from it, in order to reestablish equity and humanity in classes, would it be possible to develop humanised personalisation and not the dehumanised personalisation<sup>45</sup> that technologies ensure? Maybe one should not have to choose between Dewey and Thorndike, but better articulate them, build an open school which encourages risk taking and accepts mistakes, admits imperfections, but can offer activities instrumented by the digital technologies, and limited but efficient for training, acquiring necessary skills, etc.

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44 <https://www-nature-com.lama.univ-amu.fr/articles/s42256-018-0002-3>

45 <https://paulemerich.com/2020/07/06/three-tips-for-personalizing-in-a-pandemic/>

# SOME RECENT DEVELOPMENTS ON ARTIFICIAL INTELLIGENCE IN EDUCATION

Éric Bruillard\*

The book co-authored with Joël Boissière was published prior to the surge of artificial intelligence (AI) in education, particularly marked by the remarkable success of generative AI in producing text, images, and other media. It seemed essential to me to enhance the published text by incorporating certain elements that illuminate the ongoing transformations in this field.

Initially, we are witnessing an avalanche of texts, reactions, and debates, as if the advent of generative AI were poised to revolutionize everything, raising a multitude of challenges (such as cheating and other concerns) within educational systems. Yet, generative AI can also be viewed merely as a new iteration—an incomplete tool that has emerged within the socio-economic and educational spheres. Its use provokes critical questions as it undertakes tasks traditionally assigned to students or performed by teachers in their professional roles. However, it is worth noting a distinctive shift in the positioning of AI within educational practices. It is no longer perceived as a machine designed to replace the teacher, but rather as an assistant that supports students in accomplishing their tasks.

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## 1 Mixed-Initiative Dialogues

Tracing the history of AI in education, the earliest teaching program leveraging AI techniques was a system called *Scholar*, developed by Carbonell in 1970. This program employed a mode of interaction known as mixed initiative, wherein both the learner and the system could alternately take the initiative and ask questions. Figure 1 provides an example of such a dialogue. The student (S) queries the system (C) in natural language—albeit using relatively simple sentences—and the system is capable of answering broad questions such as “Tell me about...” while subsequently returning to the prior topic of discussion.

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**Figure 1: Session with SCHOLAR (Barr et Feigenbaum, 1982., p. 238)**Computer interventions are in **bold** and comments in *italics*.

<p><b>C) What is the language of Argentina?</b>  S) Probably Spanish  <b>C) Very good.</b>  <b>Approximately what is the area of Argentina?</b>  <i>...Student changes topic.</i>  S) Tell me something about Peru.  <b>C) Peru is a country.</b>  <b>It is located in South America.</b>  <b>The capital of Peru is Lima.</b>  <b>Now answer the question you didn't answer before.</b>  <i>... finally answers the question</i>  S) The area of Argentina is 1,100,000 square miles.</p>	<p><b>C) Approximately true, but a more exact value is 1,200,000.</b>  <b>The eastern bordering country of Peru is -</b>  <i>... Student makes a mistake which is corrected.</i>  S) Catholicism.  <b>C) False: Catholicism is not a country but a religion.</b>  <b>The correct answer is: Brazil.</b>  <b>Where is Peru?</b>  <i>... and once again changes topic.</i>  S) Is Asuncion hot?  <b>C) Since Asuncion is part of Paraguay, yes.</b>  S) What is the most important difference between Peru and Paraguay?</p>
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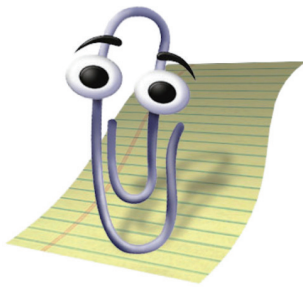
Thus, the initial research focused on a type of conversational agent, whose use proved particularly valuable during phases of exploration and, above all, review, through alternating questions and elaborations. The subsequent history of AI in education largely centered on the development of intelligent tutors, a field that faced significant challenges and was largely abandoned in the 1990s. By the 2000s, AI in education could only claim modest successes, except in the realm of conversational agents (dialogue models) and a few tutors, such as the Algebra Tutor in the United States, which were consistently tested in classrooms.

Moreover, there was a notable success in approaches that empowered humans through machines designed to adapt to their modes of thinking. These systems positioned themselves not as tutors but as assistants, tools, or “learners,” introducing a new way of interacting with computers that became dominant. This shift led to the widespread adoption of various incomplete solvers—calculators, spellcheckers, measuring instruments, translators, and the like. However, it also placed a significant responsibility on schools to teach students how to use these imperfect tools effectively, a responsibility that educational systems have rarely fully embraced.

## 2 The Gradual Development of AI as an Assistant: From AI to Als

In the evolution of computing, there has been a progressive effort to position AI as an assistant. However, the claim of “intelligence” required that machines be capable of autonomously handling certain tasks. For example, in the early 2000s, alongside search engines, intelligent search assistants or smart agents were introduced, designed to conduct searches on behalf of users. These systems, however, required users to articulate to the machine what they sought to find. Yet, challenges arose: (1) how to explain the query or (2) how to demonstrate it (e.g., selecting by example, showing rather than telling), and how to describe the elements that should be automatically extracted from an information stream.

In the broader field of office automation, AI also demonstrated its potential utility as an assistant—a virtual aide metaphorically perched on one’s shoulder, observing tasks and suggesting corrections or improvements. This concept materialized in the form of the well-known “Clippit” or “Clippy,” the animated paperclip assistant introduced alongside other animated characters in Office 97.



**Figure 2: Clippy: assistant paperclip\***

\* <https://nohat.cc/f/clippit-microsoft-clippy/m2i8G6d3N4A0A0N4-201907231703.html>  
(last access on july 2024 (same date for the links hereafter))

The assistant was designed to provide users with immediate help for various projects, relying on a series of Bayesian algorithms to determine the type of assistance required (e.g., typing cues). However, marketing research revealed that many users disliked this addition to the interface. Over time, Office users overwhelmingly rejected it, leading to its deactivation by default in Office XP and then its removal altogether<sup>1</sup>. As Rosalind Picard aptly noted in 2008, “While Clippit is a genius about Microsoft Office, he is an idiot about people, especially about handling emotions.”<sup>2</sup>

Simultaneously, intelligent conversational agents were emerging in the realm of distance learning, capable of responding to student inquiries. One notable example is Jill Watson (Goel & Polepeddi, 2018), which operated only upon student request<sup>3</sup>. Today, Jill Watson harnesses the capabilities of ChatGPT (Taneja et al., 2024). Meanwhile, assistants such as Siri, Google Assistant, Alexa, Cortana, Bixby, and Djingo became integral to smartphones, enabling users to interact with and control other connected devices. These systems interpret and understand user requests, often providing highly relevant responses.

This evolution reintroduced the interplay between tutor, tool, and assistant roles. It revived the concept of mixed-initiative dialogues from the 1970s, now with much more open conversations and multilingual capabilities. These agents also link seamlessly with other programs to execute a wide range of tasks—generating text, creating images, programming, editing, translating, and more. These advancements transformed AI into *AI*s, emphasizing their expanded role as conversational agents with enhanced dialogue capabilities, supporting a broader spectrum of tasks.

Bill Gates (2023) observed that Clippy failed because it was a robot, not an agent, explaining its lack of success. He argued that AI would fundamentally transform how humans interact with computers:

*“Agents are not only going to change how everyone interacts with computers. They’re also going to upend the software industry, bringing about the biggest revolution in computing since we went from typing commands to tapping on icons.”*

In education, adopting incomplete solvers via conversational agents will necessitate a rethinking of curricula, learning tasks, progression frameworks, and assessment methods. Crucially, it will involve decisions about the delegation of authority to machines. Historically, educational institutions have often

1 See, <https://www.01net.com/actualites/clippyle-trombone-assistantdevrait-faire-son-retour-dans-la-suite-office-de-microsoft-2046056.html> et <https://www.youtube.com/watch?v=DI3zNHfrFu0>

2 See <https://dspace.mit.edu/bitstream/handle/1721.1/137903/07.picard-EI-chapter.pdf?sequence=2&isAllowed=y>

3 See also, AI-Powered Adaptive Learning: A Conversation with the Inventor of Jill Watson. <https://www.onlineeducation.com/features/ai-teaching-assistant-jill-watson>

responded to new tools by imposing partial or complete bans. Such prohibitions are usually short-lived, but embracing digital assistants complicates assessment tasks, challenging educational systems by potentially lowering exam success rates.

Some generative AIs have been labeled “stochastic parrots” (Bender et al., 2021), a metaphor reflecting their reliance on probabilistic models to generate human-like text without comprehension. This limitation can result in absurd outputs (e.g., hands with more than five fingers), underscoring the need for AI systems to explain their outputs—a capability they currently lack. While the reliability of responses in well-established knowledge domains, such as school curricula, is likely to improve, these systems will remain unable to justify their answers.

In educational settings, a “Columbo-style” interaction might develop, reminiscent of the iconic Californian detective who always knew the culprit but sought to uncover the evidence. Similarly, students may be presented with the correct answers and tasked with explaining or justifying them. This is a demanding process that many students may struggle to complete. If students are only given the answers, what will they truly have learned?

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### Chapter 3 - III

# CONSTITUTIONAL DESIGN FOR EDUCATION PLATFORMS

: Is Mechagodzilla a friend of mankind?

Goro Horiguchi\*

Unless you're a Godzilla fan, you may have never heard of Mechagodzilla. Everyone knows that Godzilla is a superstar of the monster world. Mechagodzilla is a robot built to resemble Godzilla. It first appeared in the 1974 film *Godzilla vs. Mechagodzilla*, and the high praise it earned there led to its rapid reappearance the following year in *Terror of Mechagodzilla*. This is the only film in the Godzilla series whose title is solely the name of a monster other than Godzilla. However, Mechagodzilla ended up causing significant damage not only to Godzilla but also to Toho, the company that owns it. Sluggish audience numbers for the movie forced Toho to put the entire Godzilla series on hiatus for nearly ten years. Mechagodzilla would be permitted to make a return in the 1993 film *Godzilla vs. Mechagodzilla II*, which was released to commemorate the 40th anniversary of the franchise (the movie was also the 20th film in the series). After making this magnificent comeback, Mechagodzilla would go on to appear in several more Godzilla movies.

While there have been many fanciful monsters in the series, Mechagodzilla is rare in that it's hard to tell whether it's a friend or foe to the human race. I was born in 1987, so my first encounter with Mechagodzilla was in the 1993 movie *Godzilla vs. Mechagodzilla II*. In that film, Mechagodzilla was built by humans (at the U.N. Godzilla Countermeasures Center) as a next-gen weapon to use against Godzilla. In this sense, it's surely an ally of humans. But for fans of the Godzilla series, it is easy to misinterpret a monster that attacks the titular character as an enemy. This illusion is reinforced by the fact that, in this movie, Godzilla tries frantically to protect a Baby Godzilla. Another problem is that the Mechagodzilla which appears in the 1974 film *Godzilla vs. Mechagodzilla* was created by aliens from the Third Planet of the Black Hole as a weapon for invading Earth, which makes it an enemy of humans for sure. So, it's not so easy to accept it as an ally. Therefore, it is extremely difficult to ascertain whether the robot known as Mechagodzilla is a friend or foe of humankind<sup>1</sup>.

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1 The website of the Tsuburaya Eiji Museum (<https://s-tette.jp/museum/information/entry/006989.html>) has the following special note regarding the Mechagodzilla in the 1974 film and that in the 1993 film (the latter would combine with the Garuda gunship to form "Super-Mechagodzilla"): We get a lot of questions from visitors about the difference between Mechagodzilla and Super-Mechagodzilla. Mechagodzilla is an enemy of humanity created by aliens from the Third Planet of the Black Hole to invade Earth,

Finally, we arrive at the point of this lengthy preamble: There has been much discussion lately about whether information technologies such as artificial intelligence are our allies or our enemies. One of these technologies is “EdTech” (Education + Technology), the subject of this article. Many expect that EdTech will be a secret weapon for resolving all of the long-standing problems in formal education at once. But there is also a strong sense that it could destroy the functionality of the educational system developed thus far by humans. In this article, we will therefore consider the positive and negative effects of EdTech on formal education—in other words, whether it is our friend or foe—from the perspective of my field of study, constitutional law<sup>2</sup>.

EdTech can mean a lot of different things. Since platforms are the theme of this “Influence and Legality of Monstrous Platforms” series, this article mainly considers “digital education platforms.” Different authors have somewhat different ideas of what a digital education platform is, but for the sake of this discussion, let’s define it broadly as “any digital space where education or learning takes place.” Specific examples include (in no particular order) content-delivery platforms like MOOC, Khan Academy, and Study Sapuri; learning management systems (LMS) such as Moodle and Google Classroom; the Ministry of Education, Culture, Sports, Science, and Technology’s computer-based testing (CBT) system called MEXCBT; and the various e-learning portals that serve as hubs for connecting to EdTech.

But educational platforms are not limited to those of the digital variety. Traditional school buildings are “analog” education platforms because they are physical spaces where different educational and learning activities take place<sup>3</sup>. Digital education platforms can either complement or replace those school environments. Thus, we should probably reexamine the value and limitations of physical school spaces as we consider the significance and risks of digital education platforms. This article will therefore discuss educational platforms in general, unrestricted to the digital realm.

In section 1, we will explore the value and limitations of analog educational platforms (physical school buildings). After analyzing the significance of digital education platforms that could complement or replace those analog platforms in section 2, we will then look at some of the risks of digital education platforms in section 3, all from the perspective of constitutional law. Finally, in the conclusion, we will revisit the question

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while Super-Mechagodzilla is an ally of humans built by the U.N. Godzilla Countermeasures Center to defeat Godzilla.

2 In this series, the country of Japan is often compared to the Leviathan, while digital platforms are compared to the Behemoth (the first to draw this metaphor was Tatsuhiko Yamamoto in “Digital Platforms in Modern Sovereign Nations: Leviathan And Behemoth”, in Hajime Yamamoto ed., *Basic Constitutional Theory* (Shinzansha Publisher, 2022), pp.147–181. But there were two reasons why a new monster, Mechagodzilla, was selected to appear in this article. The first is that the Behemoth allegory refers to the companies like GAFAM that offer digital platforms, while this article aims to focus on the digital education platform space itself. And the second is that even if we focused on the companies themselves rather than the space, the boards of education that manage educational administration for local municipalities are not nearly influential enough to be called Leviathans, and the majority of companies offering digital education platforms in Japan are small- and medium-sized businesses that could hardly be seen as Behemoths.

3 Mark West, *An ed-tech Tragedy?: Educational Technologies and School Closures in the time of COVID-19* (UNESCO, 2023), p.463. And although the context differs somewhat, a consideration of the “school platform” concept utilized by the Japanese government can be found in Noriko Yamano, *School Platforms: Fighting Child Poverty Through Education, Welfare, and Community Outreach* (Yuhikaku Publishing, 2018).



we started with: Are digital education platforms an ally or an enemy of the human race?

## 1 School buildings are analog education platforms

### (1) Value of a school building

Recently, there was a temporary closing of school buildings around the world due to the COVID-19 pandemic. Unable to attend school, children were receiving instruction through online methods for quite some time. This caused people everywhere to fully realize the importance of school buildings, which they had took for granted.

For example, the following statement appears in the report “An ed-tech Tragedy?” published in 2023 by UNESCO:

“The pandemic also reminded societies that schools provide benefits ed-tech cannot; schools are places where young people learn to socialize with others, navigate differences and cultivate empathy beyond the sterilized distance of a screen...Educational experiences during the pandemic also illustrate the extent to which in-person schools consolidate an array of community services that stretch well beyond academic learning. Numerous activities take place at schools that enhance well-being, from providing students with nutrition, physical activity and social interaction to serving as hubs for cultural and artistic expression, technical and vocational training, adult education and community engagement”<sup>4</sup>.

And at the 50th meeting of the United Nations Human Rights Council in 2022, it was pointed out that schools are places where students, teachers, parents, guardians, family members, and other members of the educational community can interact, and that they provide other services (meals, medical services, protection from violence, etc.) needed for people to exercise their right to receive an education, so there are risks involved in replacing an in-person education with remote online learning<sup>5</sup>.

This is even more true in Japan, where the classroom has come to be the cornerstone of educational activities as it fills many different roles. A report published in January 2021 by the Central Council for Education contained the following statement: “The problems and concerns arising from the temporary school closures have reminded us that schools not only ensure people have the chance to learn and improve their knowledge, but they also play a welfare role as places where people can interact peacefully and safely as well as that of a safety net that helps people stay mentally and physically healthy. We must keep in mind that one of the strengths of the Japanese educational system is this welfare role that schools play as a safety net and a place

4 West, supra note 3, p.459. The reason this report spells it “ed-tech” rather than “EdTech” is to maintain a certain degree of separation between education and technology by way of the hyphen, with the lowercase letters ensuring that no special significance or reverence is injected into the term (p.32).

5 Koumbou Boly Barry, Impact of the Digitalization of Education on the Right to education: Report of the Special Rapporteur on the Right to Education (United Nations, 2022), p.14.

for ensuring that children achieve overall personal development and growth”<sup>6</sup>.

The “Japanese educational system” referenced here is Japan’s unique style of education that involves “teachers providing educational and life guidance based on a holistic understanding of each child from a variety of perspectives, thus playing a critical role in their physical, intellectual, and moral development”<sup>7</sup>. For example, the Japanese educational system emphasizes “fully developing the individual character” (article 1 of the Basic Act on Education) and focuses on life guidance just as much as education through team-building school activities such as school lunch, cleaning duties, after-school clubs, and athletic competitions<sup>8</sup>.

The physical space of a school building is indispensable for achieving this sort of Japanese education. Online might be fine if we were only concerned about the transmission of knowledge, but the aforementioned team-building activities require that children experience student life within the same physical space. And this is precisely why the closure of all primary and secondary schools for more than two months, from the start of March to the middle of May in the year 2020, had such a dramatic effect on formal education in Japan. As a result, more attention is now being given to whether the “right to attend a school” is part of the right to receive an education<sup>9</sup>.

## (2) Limitations of physical school spaces

As we have seen, school buildings in Japan are essential for preserving people’s right to receive an education (article 26 of the Constitution). They have educational value because they cultivate knowledge, wisdom, and health among children, and they have social value as a safety net and a place where children can assemble safely. On the other hand, we cannot ignore the reality that these physical school spaces have sometimes caused children to suffer and thus harmed their right to receive an education. Japan’s schools (particularly the idea of the “class,” which forms the core of student life) are characterized by strong communal living and active personal development, so they tend to be oppressive and sometimes even lead to truancy issues.

When considering the history of the school class in Japan, Haruo Yanagi compared its suffocating nature to a tour package. According to him, the school class and a tour package “both result in the discomfort of not being able to freely choose your path” but that “unlike a tour package, where the entire group of participants wants to have fun on the trip, participation in the school class is mandatory whether you want to study or not, and the class contains only children of the same age.” In addition, “competition is always fierce, and it’s difficult to tell who is your friend or foe.” To Yanagi, the school class is like a “compulsory tour package”<sup>10</sup>. In other words, “The school class is like someone forcing you to go on a years-long trip where you will

6 Central Council for Education, “Building a Japanese-style Educational System for the Reiwa Era: Collaborative Learning Optimized to Unlock the Potential of All Children” (January 26, 2021), p.7.

7 Central Council for Education, *supra* note 6, p.5.

8 For the evolutionary history of Japanese formal education, see Haruo Yanagi, *History of the School Class: Doubt the Space that Was Never Doubted* (Kodansha, 2005), chapter 5.

9 Goro Horiguchi, “Impact on the Right to an Education: Does Constitutional Law Guarantee the Right to Go to School and the Right to Receive an Education Without Going to School?”, in Keigo Obayashi ed., *Constitutional Law and the Coronavirus Pandemic* (Koubundou, 2021) pp.195–196 etc.

10 Yanagi, *supra* note 8, p.13.

encounter nothing but strangers, which is something that even adults couldn't bear, much less children"<sup>11</sup>.

The Central Council for Education report cited earlier also states: "Some have noted that there is an excessive demand on children to 'do the same things in the same way as everyone else' at school, and there has been an increase in the number of children who feel peer pressure to conform within their school lives. As society has grown more diverse, the fact that our school culture is ruled by conformity and uniformity has become more apparent. People have noted that this can make student life a challenge due to problems like bullying, a doctrine of hard work and illogical idealism, education that focuses on memorization rather than understanding, and other factors that can lead to a negative feedback loop. Moreover, parents and teachers are also subject to this peer pressure"<sup>12</sup>.

Compulsory public schools in particular force a bunch of kids with almost nothing in common except their age and municipality to show up according to a schedule determined by someone else and engage in cooperative activities while being instructed to "do the same things in the same way as everyone else". These limitations of school learning are becoming ever more apparent as the children who attend school become more diverse and the schools themselves grapple with novel challenges.

The introduction of a digital education platform aims to tackle various educational constraints. In January 2022, the Digital Agency, Ministry of Education, Culture, Sports, Science and Technology, and Ministry of Economy, Trade, and Industry published the "Education Data Utilization Roadmap". This document highlights challenges in current education settings such as "the presence of students with diverse backgrounds and cognitive profiles, including non-attending students, those with special support needs, and children with exceptional talents in specific fields, as well as the varied school contexts, such as small-scale schools in remote or island areas". It further posits that these challenges "cannot be adequately addressed within the conventional basic framework of the education, which is predicated on the teaching "simultaneously" "the same content" to "all students in the same age" "by teachers" "on the same speed" "at school"<sup>13</sup>.

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## 2 The significance of digital education platforms

### (1) They complement brick-and-mortar schools

Now then, how can a digital education platform complement a physical school? The primary benefits of a digital education platform as imagined by the Japanese government can be summarized by referring to the Roadmap on the Utilization of Data in Education mentioned earlier.

First, it achieves "personally optimized learning" through the use of learning analytics<sup>14</sup> for educational data like study logs. The data from educational and learning activities conducted on a digital education

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<sup>11</sup> Yanagi, *supra* note 8, p.18.

<sup>12</sup> Central Council for Education, *supra* note 6, p.8.

<sup>13</sup> Digital Agency, MIC, MEXT, METI, "Roadmap on the Utilization of Data in Education" (January 7, 2022), p.46.

<sup>14</sup> For a simple guide to learning analyses, see Masako Furukawa et al., *The Educational Compass: Learning Analytics* (Maruzen, 2020).

platform can be automatically recorded. If we collect large amounts of educational data from diverse sources then analyze it with artificial intelligence and other tools, we may discover patterns or correlations related to learning. Applying those patterns and correlations to the learning data of all primary- and secondary-school students should then allow us to provide education that is tailored to the capabilities and characteristics of each child.

Second, it can fill gaps in social welfare. If the board of education can consolidate and analyze all the data (attendance records, academic and athletic ability, home environment, public assistance, payment of taxes, etc.) connected to things like poverty and child abuse which have traditionally been managed by separate entities, we should be able to respond to neglected cases that need our help.

Third, it reduces the burden on teachers. If we can transmit knowledge through educational activities on a digital education platform, such as through the distribution of video lessons and self-study features like A.I.-based practice drills, we can decrease teacher workloads. This should improve the busy working environments of teachers and fill in some educational gaps by allowing teachers to focus their efforts on the collaborative learning that is only possible within a physical school setting<sup>15</sup>.

Fourth, it promotes evidence-based policy making (EBPM) within the field of education. Traditionally, the policies that govern formal education have been strongly influenced by the personal experiences and subjective opinions of policymakers, because sufficient quantities of the right types of data had not been collected in a suitable format<sup>16</sup>. But accumulating huge amounts of diverse data on a digital education platform then analyzing it with A.I. and other tools could provide evidence for how to achieve various educational results, which would encourage EBPM in education.

## (2) In place of physical schools

Digital education platforms can not only supplement physical school spaces, but even serve in place of them (the online instruction provided during the temporary school closures of the coronavirus pandemic was one example of this). This is because digital education platforms transcend the limitations of time and space to provide educational content to people of all ages, whether at school, home, or somewhere else. Children who don't perform well in brick-and-mortar schools and adults that have already entered society can therefore receive an education through digital education platforms instead of traditional school settings.

The Roadmap on the Utilization of Data in Education also paints an idealized picture of implementing digital education platforms and educational DX to achieve learning that can be done “anytime, anywhere, by anyone, in their own way”<sup>17</sup>. Moreover, a report<sup>18</sup> from the Ministry of Education, Culture, Sports, Science, and Technology (MEXT) has stated that “more thought will be given to how to utilize digital

<sup>15</sup> See Daisuke Asano, *Building the Classrooms of the Future with Educational DX: Can Schools Be Reborn under the GIGA School Concept?* (Gakuyo Shobo, 2021), pp.20–21.

<sup>16</sup> This is a long-standing problem within the fields of education economics and sociology of education. For example, see Makiko Nakamuro, *The Economics of Scholarship* (Discover 21, 2015).

<sup>17</sup> Digital Agency et al., *supra* note 13, p.47.

<sup>18</sup> Director of MEXT's Elementary and Secondary Education Bureau, “How to Support Truant Schoolchildren (Notice)” (October 25, 2019).

solutions to support the children who want to attend school but can't, based on the idea of 'leaving no child behind.'" As an example of this, it states that "school principals could count truant children as present in school if they meet certain requirements by completing learning activities through the use of ICT etc. within their own homes"<sup>19</sup>. <sup>19</sup> Thus, using digital education platforms to provide formal education to children who cannot physically attend school would essentially result in the "right to receive an education without traveling to a school building"<sup>20</sup>.

Also, a general comment released by the U.N.'s Committee on the Rights of the Child in 2021 noted that remote learning using EdTech is essential for children who are not physically attending school and for those who live in remote areas or in disadvantaged or vulnerable situations, and that governments should ensure there is proper infrastructure in place to enable access to distance learning for all children<sup>21</sup>.

### 3 Digital education platforms and privacy rights

#### (1) Routine data collection and profiling

As discussed above, digital education platforms have the potential to greatly transform the landscape of school education and overcome the limitations of physical school spaces. But powerful tools always come with substantial risk, and digital education platforms are no exception. While many such legal risks have been identified, here we will narrow our discussion down to the issues involving important privacy rights (article 13 of the Japanese Constitution)<sup>22</sup>.

There is always a risk of privacy issues with any digital platform, but educational platforms have a particularly severe structural problem. The problem is that children, whose right to privacy should be especially protected due to their immature judgmental capacity, are routinely subjected to the collection of a large amount and variety of personal information, including highly sensitive information, as well as profiling of such information to infer their inner feelings and other sensitive information.

In the "Child Development System" of Minoh, a city in Osaka Prefecture, various datasets connected to poverty among children (such as their academic and athletic results; the results of investigations into their living situations; their daily behavior and attire; the results of school or preschool medical exams; reports of abuse and the responses to them; whether they receive various subsidies or public assistance such as the child support allowance; their reported household income when calculating the daycare fee; whether they are behind on their school-lunch payments; and whether they receive tuition assistance) are consolidated into a single database controlled by the Child Development Office within the board of education. Algorithms

<sup>19</sup> Digital Agency et al., *supra* note 13, p.48.

<sup>20</sup> See Horiguchi, *supra* note 9, pp.196–197.

<sup>21</sup> United Nations Committee on the Rights of the Child, "General Comment No. 25 (2021) on Children's Rights in Relation to the Digital Environment" (2021), p.17.

<sup>22</sup> For other issues, see Goro Horiguchi, "AI and Educational Systems", in Tatsuhiko Yamamoto ed., *AI and Constitutional Law* (Nikkei Business Publications, 2018), pp.253–283; Goro Horiguchi, "EdTech and Constitutional Law", *Educational law review* No. 52 (2023), pp.90–98.

within the system are then used to calculate an “Overall Child Score” consisting of three assessments: the amount of poverty in the child’s life, their academic ability, and their soft skills<sup>23</sup>. And in the Shiga city of Higashiomi, MEXT’s Project Promoting the Use of Educational Data and Advanced Technology with a Focus on Next-Generation Schools and Places of Learning is “supporting the continual improvement of the instruction provided by teachers through the acquisition and analysis of data about the emotions of children as detected through cameras on their GIGA devices (things like heart rate, pupil movement, and other information that has been scientifically proven to reflect a person’s mental state) then using that to show teachers how well students are concentrating in class, how interested they are in the lesson, etc”<sup>24</sup>.

If this sort of profiling that predicts sensitive information produces a true result, then that’s the same as if the sensitive information had actually been acquired; and if the prediction is wrong, then the education we provide to each individual might be based on a mistaken conception of who they are. Above all, there are fears that the profiling of children “could influence their decision-making through nudges and behavioral predictions, restricting their potential self-development as young children, adolescents, and even adults”<sup>25</sup>. Furthermore, A.I. can monitor children for far longer than their teachers, then automatically analyze that data, share it with other people, and use it for a variety of purposes. This could result in the “panopticon effect,” where children act differently because they know that someone might be observing or assessing them<sup>26</sup>.

For this reason, the countries of the world have tended to place severe restrictions on the profiling of children. The E.U. privacy law known as the GDPR, for instance, places a clear restriction on profiling (article 22), offering special protections to personal data that is used “for the purpose of creating profiles of their personality or individuality,” since children might not fully understand the risks of having their data processed in such a way (page 38 of the previous source)<sup>27</sup>. Analyzing the mental states of children in schools has also tended to be very restricted. For example, the A.I. Act passed by the European Union in May 2024 prohibits the use of artificial intelligence to infer the emotions of natural persons in educational institutions due to the risk of the subjects being unable to provide consent<sup>28</sup>.

In addition, biometric data like fingerprints, voiceprints, veins, and facial features are a very powerful

23 Administrative Reform of the Government website ([https://www.gyokaku.go.jp/review/aki/R03/img/5\\_6sankou\\_minou.pdf](https://www.gyokaku.go.jp/review/aki/R03/img/5_6sankou_minou.pdf)). This case also included data that isn’t directly related to education, so it’s probably best to look at it as the usage of “children’s data.” See the Children and Families Agency, “Guidelines for Linking to Children’s Data (Draft)” (March 2024).

24 Techno Horizon Co. Ltd., “Explanation of MEXT’s Project Promoting the Use of Educational Data and Advanced Technology with a Focus on Next-Generation Schools and Places of Learning” (January 17, 2023).

25 Joseph A. Cannataci, *Artificial Intelligence and Privacy, and Children’s Privacy: Report of the Special Rapporteur on the Right to Privacy* (United Nations, 2021), p.14.

26 Wayne Holmes et al., *Artificial Intelligence and Education: A Critical View through the Lens of Human Rights, Democracy and the Rule of Law* (Council of Europe, 2022), p.55. It also notes the effects on children’s freedom to form an ideology. See Chihiro Moriguchi, “Constitutional Problems with Using Educational Data: Especially from the Perspective of Freedom of Mind,” *Monthly Jichiken* No. 770 (2023), p.53.

27 For more on the requirements to conduct learning analyses under the GDPR, see Thashmee Karunaratne, “For Learning Analytics to Be Sustainable under GDPR: Consequences and Way Forward”, *Sustainability* Vol.13 No. 20 (2021), pp.1–19.

28 For more on topics such as the E.U.’s General Data Protection Regulation and Artificial Intelligence Act, see Tatsuhiko Yamamoto et al. eds., *Global Map of Data Protection: The Future of Privacy via Constitutional and Legislative Mechanisms* (Koubundou, 2024), chapter 9.1 (Goro Horiguchi).

way to identify specific individuals. And since such features cannot be changed at will, that data should be handled with more care than “simple data” such as names and addresses. In the E.U.’s GDPR as well as in Convention 108 +, which is a privacy treaty established by the Council of Europe, biometric data that can uniquely identify a natural person is considered a “special category of data” deserving of stricter controls on its processing. In addition to specifying that educational data should not be the subject of routine processing within educational institutions, the Convention 108 + guidelines state that the processing of certain physical or behavioral data for the purposes of monitoring or affecting the behavior of children should be treated the same as handling biometric data, even if it is not done to uniquely identify specific individuals<sup>29</sup>.

In contrast, In contrast, Japan's Personal Information Protection Act does not explicitly regulate profiling, does not provide special protection for children's privacy rights<sup>30</sup>, and does not include biometric information in the category of “sensitive personal information” (article 2.3 of the Act). Under this legal framework, educational institutions in Japan are actively conducting large-scale profiling on children, even going so far as to analyze their emotions through the use of exceedingly risky biometric data.

## (2) Children forced to consent

But of course, it is not the case that there is zero awareness of children’s privacy rights within Japan’s academic environments. Consent is often obtained from children or their parents<sup>31</sup> when collecting or analyzing their personal data, and it isn’t unusual to seek consent just in case, even when the Act on the Protection of Personal Information doesn’t require it.

Obtaining a person’s consent is certainly an effective way to protect their privacy rights. But when it comes to using educational data, getting the individual to formally consent doesn’t necessarily reduce the risk of their rights being infringed. This is because children are still developing their decision-making capabilities, which makes it difficult for them to imagine how their personal data might be used and what such usage could result in. And although their parents have mature decision-making powers, their interests are not always aligned with those of their children, so their opinions don’t necessarily lead to the maximum benefit for the children<sup>32</sup>. There is also a power imbalance between the child and the school, which could force the child to give their consent if they think that failing to do so will prevent them from receiving a satisfactory

29 Council of Europe, *Children’s Data Protection in an Educational Setting Guidelines* (2020), pp. 35–36. Also, Holmes et al., *supra* note 26, pp.35–36 notes that the personal data protection laws defines biometric data with a focus on the identification of individuals. This is a problem because they don’t address data processing that aims to affect the behavior of individuals. The main fear is that using biometric data for the purpose of affecting the behavior of children who are still growing and developing will greatly impact the development of their brains and cognition.

30 But Japan is not alone in lacking special legal protections for the privacy rights of children. Many other countries are in the same situation. Right to Education Initiative, *Paper commissioned for the 2023 Global Education Monitoring Report: Technology in Education* (UNESCO, 2023), pp.19-20.

31 The consenting subject is generally the child themselves, although “consent must be obtained from a legal guardian or representative in cases where a minor does not have the ability to make decisions for themselves etc.” (Personal Information Protection Commission’s “Guidelines for the Act on the Protection of Personal Information [General Rules]” (2023 Revision), p.28). According to the website of the Personal Information Protection Commission ([https://www.ppc.go.jp/all\\_faq\\_index/faq1-q1-62/](https://www.ppc.go.jp/all_faq_index/faq1-q1-62/)), “the specific ages of children for which consent from a legal guardian etc. must be obtained should be determined on a case-by-case basis depending on the type of personal data and the nature of the project”, but that this was “generally no older than 12 to 15 years of age”.

32 Cannataci, *supra* note 25, p.19.



education.<sup>33</sup> For these reasons, the effectiveness of consent is weakened when it comes to the utilization of educational data.

Regarding this, article 4 of the E.U.'s GDPR clearly defines the consent of a data subject as “any freely given, specific, informed and unambiguous indication of the data subject’s wishes by which he or she, by a statement or by a clear affirmative action, signifies agreement to the processing of personal data relating to him or her”<sup>33</sup>. And as conditions for consent, article 7 lists things like the controller being able to demonstrate that the data subject has provided their consent and that the data subject can easily withdraw their consent at any time. Additionally, the European Data Protection Board guidelines<sup>34</sup> related to GDPR consent provide detailed interpretations of the various conditions included in the definition of consent. For the condition of being “freely given,” for example, the guidelines mention components such as “imbalance of power,” “conditionality,” “granularity,” and “detriment,” citing an example in which a public school asks students for consent to use their photographs in a printed student magazine. In such a case, consent would be effective because the students could refuse the use of their photographs without being denied education or services and without any detriment to themselves.

In contrast, Japan's Personal Information Protection Act does not provide a definition or requirements for consent. Perhaps because of this, there seems to be a widespread misunderstanding in Japanese schools that simply obtaining the individual's consent will resolve any issues regarding privacy rights, resulting in a situation in which children are "forced to consent."

On top of this, the parties to the terms-of-service agreements for digital education platforms are often school administrators on the board of education or at incorporated educational institutions, not children and their parents. With the e-learning portals that have come to serve as hubs for various EdTech solutions, details about the educational data that can be used and for what purposes depend on their individual service agreements<sup>35</sup>, but the parties to those agreements are the boards of education and incorporated educational institutions. Moreover, these boards of education and incorporated educational institutions that enter into agreements with companies that offer digital education platforms typically provide the personal data of children to those companies in the form of “contract work” that does not require the data owner’s consent<sup>36</sup>. This means that children are almost completely incapable of participating in the handling of their own data, so all they can do is hope that these entities are properly protecting their personal data by establishing agreements and supervising the work of their contractors (articles 25 and 66 of the Act on the Protection of Personal Information)<sup>37</sup>.

33 Borhene Chakroun et al., *Minding the Data: Protecting Learners’ Privacy and Security* (UNESCO, 2022), p.16.

34 European Data Protection Board, *Guidelines 05/2020 on Consent under Regulation 2016/679, Version 1.1* (13 May, 2020).

35 ICT CONNECT 21, “E-Learning Portal Standard Model Ver. 4.00” (March 29, 2024), p.95.

36 Digital Agency et al., *supra* note 13, p.37.

37 The safety-control measures that article 66 of the Act on the Protection of Personal Information requires of government agencies etc. include oversight of subcontractors. Personal Information Protection Commission, “Guidelines for the Act on the Protection of Personal Information (Government Agency Edition)” (2023), p. 24.

## Conclusion

As we have seen, digital education platforms have the potential to overcome the limitations of brick-and-mortar schools while greatly improving formal education, but they also present serious risks such as violating the privacy rights of children. Therefore, when asked whether digital education platforms are friends or foes of humanity, we have no choice but to answer that they can be both. This uninteresting answer, however, leads to the next important question: If digital education platforms can be both friends and foes, how can we make them our allies?

Here, Mechagodzilla can provide us with a hint. Mechagodzilla was not a monster born from the natural world. It was a robotic monster that was developed by someone with a specific design and for a specific purpose. Thus, whether Mechagodzilla is a friend or foe to humans depends on who designs it, and for what purpose. In fact, the first Mechagodzilla in the 1974 film was created by aliens from the Third Planet of the Black Hole as a weapon for invading Earth, but the Mechagodzilla that returned in 1993 was built by humans to help them defeat Godzilla.

Similarly, whether digital education platforms will be allies that contribute to establishing the right to receive an education or enemies that infringe upon our privacy will depend on how they are designed (see article 25 of the GDPR for more on this sort of “privacy by design”). Put simply, digital education platforms should become our allies if we can give them “constitutional designs” that reduce the risk of human-rights violations. Many of the digital platforms that have already been established are difficult to regulate by law because the main aspects of their design are already established and the companies that develop them have enormous power that surpasses that of nations<sup>38</sup>. However, digital education platforms are characterized by a multilayered construction across a variety of other platforms<sup>39</sup>, and although their infrastructure in the cloud etc. is provided by giant multinational corporations like GAFAM<sup>40</sup>, start-ups and other small- and medium-sized businesses in Japan form the core of individual educational services. Digital education platforms are also still in the process of being developed, and there is some variability in their design. Therefore, we still have a good chance to at least incorporate some “constitutional design” into our digital education platforms.

But what should those designs look like, exactly? Answering this question will require cooperation between corporations, engineers, data scientists, pedagogists, legal experts, educators, and more while sufficiently respecting the opinions of children, parents, and guardians. Here, however, I’d like to provide a rough guess of how these platforms are connected to privacy rights, from the viewpoint of constitutional law.

First, as external legislative restrictions on design, we could establish special protections for the privacy

38 Regarding this issue, definitely see Yamamoto, *supra* note 2.

39 Mathias Decuypere et al., “Introduction: Critical Studies of Digital Education Platforms”, *Critical Studies in Education* Vol. 62 No.1 (2021), pp.4-5.

40 It has been pointed out, for example, that Amazon Web Service (AWS) restricts the features and services that companies can provide to educational institutions, effectively “reigning over” the EdTech industry. Ben Williamson et al., “Amazon and the New Global Connective Architectures of Education Governance”, *Harvard Educational Review* Vol. 92 No. 2 (2022), p.245.

rights of children and create strict requirements for the use of profiling, particularly in the case of minors. Especially, emotional analyses and other high-risk profiling techniques should be outright banned or else severely restricted, regardless of whether the child has provided their consent. Regarding the management of digital education platforms, when asking for consent we must provide children and parents with very plain explanations of what data will be used, how it will be used, and what the advantages and risks are. Collecting and analyzing people's personal data in a way that does not disadvantage them if they refuse will ensure that they have the opportunity for alternative forms of education. The design of digital education platforms themselves should not place too much emphasis on the consent of children who are less able to make decisions, but should be safe enough that consent is not required.

## **Chapter 4**

# HOW CAN STATE CONTROLE PLATFORMS

– IN SEARCH OF NEW CONFIGURATION  
OF LABOR AND LAW –



## Chapter 4 - I

# HISTORY AND FUTURE OF THE LEGAL SYSTEM THAT GOVERNS LABOR

## : Transcending the Platform Economy

Sho Mizubayashi<sup>\*</sup>

The Labor Standards Act, which has formed the backbone of Japan's labor laws since the Second World War, defines a worker as "a person who is employed at a business or office (hereinafter referred to as a "business") and to whom wages are paid, regardless of the type of occupation." Whether an individual qualifies as a worker depends on ① employment, i.e., whether they work under the direction and supervision of an employer, and ② payment, or whether they receive compensation in return for their labor.<sup>1</sup> In this way, the post-war system of labor laws has primarily protected "workers" who are employed and working under the direction of an employer, ensuring their autonomy.<sup>2</sup>

But in recent years, the expansion of the platform economy<sup>3</sup> along with an accompanying surge in the gig economy has been advancing at scale as a powerful social phenomenon. From a legal perspective, this phenomenon has led to an increase in the "self-employed,"<sup>4</sup> which is a different employment relationship than that assumed by post-war system of labor laws and social norms. This in turn has created serious issues with how to protect the rights of workers.

The protections afforded by labor laws do not extend to individuals engaged in this sort of "work that does not require employment." Precisely how to resolve the conflicts and troubles that arise from this is a pressing issue for the countries of the world, which are responding in diverse ways that depend on their unique cultural backgrounds and legal systems.<sup>5</sup> For example, the scope of France's labor and social-security laws has traditionally been based on the concept of the "labor contract," which is built around a type of personal subordination consisting of direction, supervision, and punishment. A 2020 court decision in a case

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<sup>1</sup> See Shinpei Ishida, Hisashi (Okuno) Takeuchi, Yoko Hashimoto, and Yuichiro Mizumachi's "Digital platforms and labor law—Creation and development of the worker concept" (University of Tokyo Press, 2022), chapter 1 (the part written by Mizumachi).

<sup>2</sup> Satoshi Nishitani, *Labor Law: Third Edition* (Nippon Hyoron sha, 2020), p.6.

<sup>3</sup> The remark that it should be called the "platform economy" rather than the "sharing economy" is from Yoshihito Kawakami's "ICT and working without employment—What it means to be a worker is changing" in *Annual Report of the Japanese Association of Labor Sociology No. 29* (2018), p.46.

<sup>4</sup> Alain Supiot, *Au-delà de l'emploi-Transformations du travail et devenir du droit du travail en Europe*, Flammarion, 2016, p.19 et suiv.

<sup>5</sup> For more about each country's response, see the aforementioned chapter from Ishida et al.

that questioned whether Uber drivers and other gig workers qualify as employees recognized that platform workers are employees. The country has also developed a number of new laws recently, including one that defines the responsibility of platforms with regard to independent contract workers (known as law no. 2016-1088, or the “El Khomri” law after the labor minister). In the E.U. more broadly, a proposed directive in 2021 aimed to improve the working conditions of platform workers. It stipulated requirements such as properly determining whether a worker is self-employed or an employee of the company as well as enhancements for making the legislation that governs platforms more effective.

But when we look to Japan, we see that the nation is currently trailing the pack in figuring out where these platform companies fit in,<sup>6</sup> so how to handle them from a legal perspective is a big question mark.

Incidentally, this “work that doesn’t require employment” could eventually escape the confines of the platform economy and become more generalized. This is because we are now seeing a trend in which powerful companies are replacing the traditional employment contract with a system in which their workers are self-employed. Tanita is one such example. In an interview, CEO Senri Tanida stated: “How can we release people from the feeling that they are being forced to work? The idea we came up with was to liberate people from the status of employee, making them self-employed instead. This was an attempt to let people to have power over their decisions, acting as their own managers rather than employees.”<sup>7</sup> This concept of the worker is typical of the rhetoric that “workers should be autonomous agents that manage themselves,”<sup>8</sup> an idea which became widely known in Japan previously when the works of author Peter Drucker were popular.

If this trend continues to accelerate, our existing system of labor laws which protects the rights of workers engaged in subordinate labor will more and more inadequate to the society in which self-employed workers are augment. The current situation thus compels us to restructure or rebuild our legal framework for labor, and some knowledge of how labor laws have evolved over time will be beneficial to achieving that. This article will therefore develop a general outline of how the modern system of labor has shifted, referencing France’s first-of-its-kind modern civil code. Through this lens, we will then discuss how the current labor situation fits into the historical background and offer some brief considerations regarding future prospects.

6 Ishida et al., same as above, p.270 (written by Mizumachi).

7 “Five years on, Tanita’s sole-proprietorship experiment has grown from 8 to 31” <https://www.nikkei.com/article/DGXMZO75686850T10C21A9000000/> (Last accessed on September 6, 2024); “Dentsu aims to generate new business by making 230 employees sole proprietors” <https://www.nikkei.com/article/DGXMZO66103760R11C20A1916M00/> (Last accessed on September 6, 2024)

The data suggests that traditional self-employment is on the decline, while the number of people engaged in this sort of “hired self-employment” is steadily increasing. [https://www.cao.go.jp/zei-cho/content/20150902\\_27zen18kai6.pdf](https://www.cao.go.jp/zei-cho/content/20150902_27zen18kai6.pdf) (Last accessed on September 6, 2024)

8 Alain Supiot, *La Gouvernance par les nombres*, Fayard, 2015, p.217 et suiv.



# 1 Labor in French Civil Code

## (1) Rental of labor

Following the French Revolution, multiple drafts of the civil code were considered before the law was finally established in 1804. But the story of France's modernization cannot be told without recalling the end of the privileges and guilds that existed under the feudal system at the time of the revolution. The French Revolution was grappling with how to liberate the individual from the various groups and institutions that bound them. Regarding labor, the aim was to give people more freedom in terms of their work by abolishing the guilds that had severely restricted the ability to choose one's occupation in the Middle Ages.

So, what sort of labor regulations are included in the French Civil Code established in 1804? The French Civil Code adopts the concept of *louage d'ouvrage* (rental of labor) in its provisions related to labor. Article 1710 defines it thus: "*louage d'ouvrage* is a contract whereby one of the parties undertakes to do something for the other, subject to a price agreed between them." It further divides this "rental of labor" into three sub-categories that include ① the hiring of servants and workers and ② the hiring of contractors (article 1779).

Type ① includes two types of workers namely the so-called "domestic worker" and the typical form of employment. As indicated in the debate that arose when the civil code was being drafted,<sup>9</sup> one of the main goals of this article was to realize more personal freedom by releasing domestic workers from the traditional slavish relationship. The other type is people who work under the employment of others, which features some variation such as daily, monthly, and yearly contracts, as well as different occupations: those who harvest grain or grapes; stonemasons and earthwork laborers; factory workers; the employees of banks, shops, etc.; and the managers of production plants.<sup>10</sup> According to a leading civil-code scholar of the time, these jobs were fundamentally unstable in their social standing, and working conditions were poor. Also, workers who are paid an hourly wage are not responsible for the results of their work, so they become extremely indifferent to those results. Therefore, the drafters of the civil code placed them lower in standing than other forms of employment.<sup>11</sup> Also known as *louage d'service*, this rental of labor as an employee contrasts with the contractual form discussed later.

With contracting that amounts to the rental of labor in the narrow sense of the definition in article 1779.3 (Type ②), the purpose of the contract is to "achieve the results that are agreed upon in advance," not the labor itself.<sup>12</sup> Moreover, the scope of these results can be large or small—it could be an entire building or production, for example, or just a part of one.

A textbook published at the time said this about the advantages of this type of work:

"Contract workers are increasing in number daily within every geographic area and business sector. The reason for that is very simple. No other occupation is as competitive and progressive as this type of labor.

9 P. Antoine Fenet, *Recueil complet des travaux préparatoires du Code civil*, Tome 14, Au Dépôt, p.339.

10 Troplong, *Le droit civil expliqué suivant l'ordre des articles du Code*, Tome 18, 3e éd, Charles Hingray, 1859, p.278. Duranton, *Cours de droit français suivant le Code civil*. Tome 17, 4e éd, G. Thorel, 1844, p.228.

11 Troplong, *op.cit.*, p.279.

12 Troplong, *op.cit.*, p.363.

Allowing skilled and industrious workers to operate more freely will give them the most benefit from their labor while also greatly increasing productivity for the company by reducing the degree of supervision required, which advantages both parties.”<sup>13</sup> As we can surmise from this statement, contract work has assumed that the worker is skilled.

For the features of how the Civil Code handles labor, then, we can say that ① all provisions related to labor use the term “rental of labor,” ② it is divided into two types, one involving domestic workers and those who work under contracts of a fixed duration (rental of service), and one involving contracts (rental of labor in the narrow sense), and ③ the idea of protecting workers essentially does not exist with regard to capital.

Rental of service matches the current form of employment that we are all familiar with, while rental of labor in the narrow sense matches self-employment; but for this article, the important thing is which was likely to have been the more fundamental form of labor under the socioeconomic conditions of the time.

## (2) The socioeconomic situation in 19<sup>th</sup> century France

To answer this question, let's first look briefly at what's been going on with France's economy and society since the 18<sup>th</sup> century. Although France in the 18<sup>th</sup> century was still an agrarian nation, this was the period when its industrial production began to expand noticeably. Nevertheless, the country's industrial framework did not undergo any drastic changes until around the middle of the 19<sup>th</sup> century. Until the transportation system had gradually developed into a rail network in the latter half of the 19<sup>th</sup> century, many areas stayed fundamentally unchanged from the prior century, with different regions remaining isolated economic blocs for many years. Even viewed by industry, the economy still revolved around agriculture, with over 60% of the population directly engaged in farming. As revealed through a statistical analysis by French historian Gérard Noiriel,<sup>14</sup> a wage-earning working class concentrated in urban centers did not fully establish itself in 19<sup>th</sup> century France.

The economic structure was also reflected in the form that labor took. The development of France's industrial production in the 18<sup>th</sup> century basically materialized as the expansion of a system under which wholesalers who were located in the cities worked with cottage industries in rural areas.<sup>15</sup> In this system, privileged merchants would supply raw materials to home producers in rural areas, pay them for their labor, and have them produce items. And even in the cities, the fact that merchant guilds controlled the manufacturing guilds meant that this same direction over the production process occurred there as well.<sup>16</sup> A good example of this is the industry of silk goods in Lyon. Wholesale textile manufacturers would provide raw materials in advance to master craftsmen, who would then produce the products along with their families and workers and receive wages for that work. In other words, the master craftsmen were engaged in labor as subcontracted producers, which corresponds to the renting of labor in the narrow sense that would be defined in the Civil Code. While

13 Etienne Mollot, *Le contrat de louage d'ouvrage et d'industrie, expliqué aux ouvriers et à ceux qui les emploient, selon les lois, règlements et usages, et la jurisprudence des conseils de prud'hommes*, Napoléon Chaix et Cie., 1846, p.29.

14 Gérard Noiriel, *Les Ouvriers Dans La Société Française*, Points, 2016.

15 Michio Shibata et al., Eds., “World History: France Volume 2 (Yamakawa Shuppansha, 1996), p.58.

16 Shibata, same as above, p.30.

larger factories would eventually appear in the 19<sup>th</sup> century, subcontracted labor still played a key role in manufacturing processes that required skilled workers.<sup>17</sup>

Drawing on this history, researcher Alain Cottureau has published studies identifying the importance of this form of subcontracted labor during this period of France's history.<sup>18</sup> Cottureau is critical of the idea that the primary form taken by labor since the establishment of the Civil Code is the "rental of service" corresponding to the current employment relationship, stating that "the situation of nearly all workers at the time, from large factories to small workshops, was in fact not one of 'rental of service' but rather the 'rental of labor.' That is, the relationship of most workers at the time was that described in the thirteen articles of the civil code dealing with subcontracting (articles 1787–1799), not those related to domestic workers etc."<sup>19</sup>

Although the previously mentioned Civil Code names three subcategories for the rental of labor in the broad sense of the term, Cottureau divides it into subcontracting that is the "true rental of labor" and the rental of service that deviates from this (domestic workers etc.). Therefore, "true workers" in the Civil Code are those who subcontract their labor and work independently from the direction and supervision of the person placing the order, while domestic workers were thought of as a subordinate, dependent relationship under the old regime.

However, because contracted workers at the time were able to set their working hours etc. at their own discretion, this was also a frequent source of stress for employers in terms of maintaining discipline. And as industrial capitalism continued to expand in the latter half of the 19<sup>th</sup> century, demand for more discipline among the workers in large-scale factories led to the popularization of employment contracts.

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## 2 Reconstructing the labor system

### (1) Review

Summarizing again, we can say that at the time the modern law was established, it reflected the prior state of the capitalist economy and thus positioned subcontracting (the rental of labor in the narrow sense) as the primary form of labor. In other words, workers acted independently (although there were a few restrictions) and completed the work at their discretion and using their own expertise, which paralleled the situation with the factory workers. This is much different than the subordinate relationship that arises from the current form of employment we are all familiar with. From a legal perspective, this form of labor was codified by the Civil Code as a contract that exists between parties of equal standing.

As industrial capitalism expanded in the latter part of the 19<sup>th</sup> century, however, the state of labor

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17 Katsuhiko Shimizu, "Industrial structure and factory systems of France's cotton industry in the 1830s," *Economic Review Vol.127 No.6* (1981); Daijiro Fujimura, "Structure of factory workers in France's iron industry during the Industrial Revolution: Focusing on a factory in central France," *The Keizai Ronkyu No.35* (1975).

18 Alain Cottureau, « Droit et bon droit. Un droit des ouvriers instauré, puis évincé par le droit du travail (France, XIXe siècle) », *Annales*, 2002.

19 Cottureau, op.cit., p.1525.

underwent a definitive transformation. The investment of industrial capital into building massive labor sites meant that workers were increasingly regulated, which eventually led to the labor relationship that is typically seen in employment today. In addition to being the time when the subordination of the worker to the employer became a widely recognized feature of labor contracts in France, this period was also marked by the steady establishment of unique labor and social legislation that differed from the general private law of the civil code in order to ensure worker autonomy.<sup>20</sup>

In terms of ascertaining the historical trends behind the modern transition of the worker to self-employment, two critical aspects are:

- ① the refocus on highly independent forms of labor, i.e., switching from rental of service to rental of labor or simply adding the latter to the prior; and
- ② the shift from the employment relationships described in labor laws to the contractual relationships between equal parties described in the general private law of the civil code, from a legal perspective.

Still, there are significant differences between the current and former systems. First, the highly independent form of labor in place right now is not necessarily based on the worker being skilled. Food delivery and other gig work is a perfect example of that, as is the fact that some companies “recruit” fresh graduates via subcontractor agreements. Another important point here is that modern labor laws have placed heavy responsibilities and obligations on employers in response to the social problems created by capitalism, and thus employers are promoting this transition to self-employment as a way of avoiding costs related to developing the skills of workers.

## (2) Image of the worker

As mentioned at the outset, this movement toward self-employment was accompanied by the rise of a certain type of worker. Under the former system of Fordism, each worker was expected to reliably execute the task that was assigned to them as part of the compartmentalized division of labor. No importance was attached to the free will or discretionary judgment of the worker; rather, the focus was on faithfully following the employer’s instructions. But as pointed out by French legal scholar Alain Supiot, discourse about the ideal worker began to shift by the middle of the 20<sup>th</sup> century. That’s when people began to suggest that workers should labor independently as entities that manage themselves, rather than ones that blindly obey the instructions of their employers. Some claimed that the key is for workers to engage in labor independently as a way of exercising their own freedom.

Such remarks denote a criticism of the traditional system of labor laws. This is because protecting workers (by restricting employers) through labor laws etc. in order to increase their productivity has actually had the opposite effect, which means that making workers responsible for the results of their own work (or for improving their job skills to achieve a certain result) is paramount. Market forces should also be applied to

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<sup>20</sup> Many important labor and social-security laws were enacted in France during the end of the 19<sup>th</sup> century and the early part of the 20<sup>th</sup> century, including the legalization of labor unions in 1884, the creation of a worker’s compensation law in 1898, and the systemic implementation of pension and insurance systems for workers. The creation of these legal frameworks may have been spurred by the popularity of Durkheim’s concept of social solidarity.

the area of labor, driving each worker to maximize their own market value.

Ultimately, this means that the effort expended by workers (regardless of if it is driven by market-based mechanisms) is an expression of their exercising freedom as autonomous entities.<sup>21</sup> Put another way, a worker who is dismissed from a worksite because their market value is insufficient must accept the responsibility for that outcome, because it results from the exercising of their own freedom.

It is a great irony of history that this movement toward worker “freedom” that we see now is being promoted as a way of hiding the fact that workers are being stripped of various protections. The purpose of liberating workers from the guilds at the start of the modern era was to allow people to achieve real value in the form of personal freedom, and this goal may now lead us to reconsider how we can build the legal system that protects the workers who are in the diverse situation.

### (3) Conclusion and future prospects

Now then, what is conceivable? While I believe that we must recognize the major role that labor laws, which mainly protect the worker, will continue to play in the future, I also feel that we need to construct an inclusive system capable of containing a broad range of labor forms. This is because it will be difficult to respond to the current situation with a legal system that was created to match the customary form of labor that had developed in Japan.

Taro Miyamoto outlined the features of Japan’s labor and social-security systems as follows:<sup>22</sup>

- ① Low expenditure on social security
- ② Employment has taken the place of social security (particularly for males); in addition to long-term employment at major companies, the government creates and maintains jobs through policies that protect small- and medium-sized businesses, supported by the civil engineering and construction industries via public works
- ③ Social security is more for the elderly than for the working-age population
- ④ A low-wage labor market for irregular employment has formed due to the upper limits imposed by the tax system on the earnings of wives, who should be helping with the household finances

For a long time in Japan, the function of social security—which is supposed to be driven by governmental authority—has been replaced by employment, mostly at private companies. New college graduates (primarily males) were able to secure stable long-term employment right away and thus enjoyed a consistent livelihood, which allowed social-security programs to focus primarily on retirement-age individuals. This meant that benefits for the working generation were at best limited to exceptional circumstances like illness or job loss, and there wasn’t enough focus on things like changing careers, learning new skills, or retraining. Therefore, one of the main characteristics of Japan’s legislative framework is that it separates the social-security laws that mostly protect retired individuals and the labor laws that primarily apply to the working class.

21 Sho Mizubayashi (this author), “Controlling with freedom: Modern society and the form of entities that regulate themselves,” *Journal of the Faculty of Law, Ryutsu Keizai University* Vol.22, No.1 (2022).

22 Taro Miyamoto, *Guaranteeing Livelihood: Toward A Society Without Exclusion* (Iwanami Shoten, 2009), chapter 2.

But the economic and industrial structure that enabled this sort of system is now being shaken to the core. As the service industry looked to expand even further,<sup>23</sup> the customary long-term employment (mostly for men) that had long been a feature of the Japanese job market crumbled, government policies focused more on irregular employment, and disparity grew as breadwinners began to enter this low-wage arena of labor. It is now apparent that this has eliminated the premise of “employment is a substitute for social security,” which has in turn weakened the social-security system. If these new platform economies continue to expand and the trend of self-employment discussed in this article advances at even more drastic pace, there is a risk that society could destabilize further.

These circumstances will likely lead not only to revisions in the labor laws themselves, but also to a complete overhaul of the entire legal system so that the labor and social-welfare laws work together in a coordinated fashion.

For the former, we should probably figure out how to protect the workers who are not being protected sufficiently by the current labor laws. Namely, we must search for a way to transition irregular employees to a more stable form of employment while taking other steps such as extending the notion of “worker” as protected by the Labor Standards Act to gig workers and other people who work for such platforms.<sup>24</sup>

In the case of the latter, considering that the expand the number of opportunities to work without being employed and rapidly accelerating societal changes will continue to force people to retrain quickly so that they can perform a new job when their industry suddenly hits a slump, we will probably also need to develop a social-security system that supports the working class by linking to labor in the form of things like systems that allow people to switch to completely different careers, assistance programs that help people with career-building activities like job training and reskilling, and mechanisms that guarantee people’s wages while they are job hunting.<sup>25</sup>

When determining what this support should look like, it will be useful to reference the French idea of “social inclusion.” This concept involves focusing on the various processes that exclude people from society and result in their being in poverty (rather than emphasizing the static idea of “poverty” itself), aiming to reintegrate people into society by creating and restoring human connections.<sup>26</sup> The workers being discussed here—those who are becoming self-employed—are also facing a form of exclusion in the sense of being cut

23 Mitsuru Yamashita and Shin’ichi Ogawa, “Working styles and changes in the structure of industry,” *Japanese Journal of the Japan Labour Studies No.743* (2022).

24 Takashi Araki, “General examination of the legal protections for platform workers,” *Jurist No.1572* (2022). After outlining several possible directions to take, Araki adopts the position that we should establish special legal protections for gig workers and other various categories as necessary.

25 Alain Supiot notes the need to establish legal systems that inclusively cover many different forms of labor, integrating employment and social security while maintaining the worker protections that existed under the traditional wage-labor relationship and responding to new trends in worker behavior and employment categories. Supiot, *Au-delà de l’emploi*, p.81.et suiv.

Along those same lines, Miyamoto advocates for a four-pronged approach to unifying labor and social security within the labor market. It involves □ supporting participation (continuing education, higher education, job training), □ increasing the compensation for working, □ temporary leaves of absence and reducing working hours, and □ creating sustainable employment opportunities. Miyamoto, same as above, pp.143–168. However, we must be careful that this sort of support does not drive job applicants toward (low-wage and unstable) paid labor.

26 For a primer on social inclusion and exclusion, see Masami Iwata’s *Social Exclusion: A Return To Absence And Irregular Attendance* (Yuhikaku Publishing, 2008).

off from stable employment and a worker community, growing financially and socially isolated to the point that they are exposed to occupational instability and placed in a situation where they have to adapt to even more market forces. Thus, we must now construct a new legal system that can resist exclusion while creating and maintaining diverse connections between society and the workers.





# THE REVERSAL OF LABOUR RELATIONS BY PLATFORM CAPITALISM

Isabelle Daugareilh\*

The capacity of digital employment platforms to adapt to the legislative reactions and social resistance they cause in any country is a constant source of surprise.<sup>1</sup> Having no ethics or morals and aiming only at getting rid of any rule or law that would not be in their favour, they polish their rhetoric, play with paradox and use it in employment matters in the most skilful and uninhibited manner, in France and at the European level. As far as labour is concerned, they have one only objective throughout the world, i.e., avoiding hiring employees at all cost and deploying algorithm-controlled independence. They managed to do so in the USA by getting involved in a public referendum against the Californian law in 2019. In Spain, those which have not left the country yet resort to third-party companies that act as employers and thus allow them to escape the application of the law establishing employment presumption for delivery workers, that is, allow them not to apply the law. In France, after failing to reinforce the presumption of independence by introducing the possibility to edict a charter via the LOM law, mobility platforms have eventually adopted the idea of social dialogue to regulate their labour relations. Acting like real regulation entrepreneurs, they have finally accepted to renounce unilateral self-regulation (charter) in exchange for bilateral self-regulation (collective labour agreement) out of necessity and/or opportunism. The sector-specific labour relations of platforms thus established show the capacity of the latter to adapt their normative strategy to context-driven evolutions and above all to use to their advantage collective bargaining, which is one of the vectors of social democracy.

That unexpected development has not happened without creating its own paradox. While the ILO recommends that its member States regularly review the field of application of labour laws ‘together with management and labour’ in order to guarantee that it correspond to current realities,<sup>2</sup> the French Government, unlike its Spanish counterpart,<sup>3</sup> has never considered consulting or even opening collective bargaining with management and labour on the legal status of platform labour relations. Instead of social consultation, public authorities have preferred calling upon experts. It is exclusively within that framework that labour organisations have been invited to give their opinion, which is completely different from any form of social dialogue

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1 See their intervention in the USA, Spain and elsewhere.

2 WTO, *Promoting employment and decent work in a changing landscape*. Study, WTC 109th session, 2020, with chapter 2 on labour relations which presents an overview of Recommendation 198 on labour relations.

3 The 11 March 2021 agreement is at the origin of decree law 9/2021 of 11 May 2021 establishing a legal presumption of employment contract for workers of commodity-delivering platforms.

or consultation and even more different from collective bargaining. Notwithstanding their exclusion from the field of the personal application of labour laws and their integration into the Code of Transport, the self-employed workers of mobility platforms have collective rights, among which the very controversial right to collective bargaining, which may violate competition law.

The idea of using social dialogue to regulate the relations between workers and platforms in France does not come therefore from management and labour but from the Government which has relied on the Frouin Report and the Mettling Mission. This social dialogue does not include the right to information and consultation that is the right of salaried employees but only the right to collective bargaining sector-specific collective labour agreements to regulate the relations of self-employed workers with platforms. The acknowledgement of a right to collective bargaining for self-employed platform workers has implied introducing a new restriction on competition law in France and in the European Union (1). There have been two parts in the accelerated legislation and establishment of that social dialogue with the 21st April 2021 and 7th April 2022 regulations. Those two texts were adopted without a debate in Parliament and without social consultation, even though they aim to establish collective autonomy for regulation purposes. It is therefore a regulation which is out of touch with reality and which has already yielded questionable results (2).

## 1 Restricting the effects of competition law on the right to collective bargaining

Without abandoning the preservation of the scope of competition law, EU bodies have adopted an open approach to self-employed workers' right to collective bargaining (B) thus getting closer to international law (A).

### (A) The universality of the right to collective bargaining in international law

The ILO law, like that of the Council of Europe, grants collective rights, including collective bargaining, to all workers regardless of their status. The ILO reviewing bodies have had to decide on the field of application of ILO Convention 98 several times. 'As a logical consequence of the right to organize of workers associated in cooperatives, the trade union organizations that workers of cooperatives join should be guaranteed the right to engage in collective bargaining on their behalf with a view to defending and promoting their interests'.<sup>4</sup> The FOA Committee requested 'the Government to take the necessary measures to ensure that all workers, including "self-employed" workers, such as heavy goods vehicle drivers, can fully enjoy freedom of association rights with the organizations of their own choosing for the furtherance and defence of their interest, including the right to join federations and confederations of their own choosing subject to the rules of the organization concerned and without any previous authorization'.<sup>5</sup> The 2019 ILO Centenary

4 ILO (2018) Freedom of association - Compilation of decisions of the Committee on Freedom of Association, 6th ed., Genève, International Labour Office. See 354th report, case No 1668, §679.

5 See 576th report, case No 2729, §888.

Declaration for the Future of Work refers to labour relations as a means to offer legal protection to workers and stipulates that all workers, regardless of their employment status, should enjoy the respect of fundamental rights (among which that of collective bargaining), adequate minimal wage (legal or negotiated), working time limitation, safety, and occupational health.

In its 12th December decision, the European Committee of Social Rights considered that ‘an outright ban on collective bargaining of all self-employed workers would be excessive as it would run counter to the object and purpose of’ Article 6§ 2 of the Charter.<sup>6</sup> Moreover, it justified the widening of the right to collective bargaining by stating that beyond the salaried/self-employed worker distinction, *‘the decisive criterion is rather whether there is an imbalance of power between labour suppliers and employers*. When labour suppliers have no substantial influence on the content of contractual conditions, they must have the possibility to compensate that imbalance by collective bargaining’. That imbalanced situation as the Council of Europe calls it is also referred to in the European Union guidelines on the application of EU competition law to collective bargaining agreements on solo self-employed workers.

### **(B) The European Union stepping forward to support the self-employed workers’ right to collective bargaining**

In EU law, free competition is protected under Article 101 TFEU. That rule does not apply to the agreements that are based on collective agreements concluded by employer and employee trade unions even though restrictive competition effects are inherent in collective agreements because the ‘social policy objectives pursued by the EU would be seriously compromised if social partners were subject to Article 101 TFEU provisions when they try to find measures to improve terms and conditions of employment and working conditions’.<sup>7</sup> However, in the *FNV* decision of 4th December 2014, the CJEU decided that a collective labour agreement ‘in so far as it was concluded by an employees’ organisation in the name, and on behalf, of the self-employed services providers who are its members, does not constitute the result of a collective negotiation between employers and employees, and cannot be excluded, by reason of its nature, from the scope of Article 101(1) TFEU’.<sup>8</sup> The same decision however underlines that the rule does not apply to agreements which have been concluded with *‘false self-employed’*, that is to say, *service providers in a situation comparable to that of employees*.<sup>9</sup> In other words, self-employed workers are only real companies within the meaning of EU law – provided, beyond the legal nature of their contract, they are not legally subordinate to their co-contracting party.<sup>10</sup>

In line with the European Parliament resolution of 2017,<sup>11</sup> the Commission went one step further on 1st September 2022 when it adopted the guidelines on the application of EU competition law to collective agree-

6 Decision No 123/2016 of 12th December 2018, *Irish Congress of Trade Unions*.

7 CJEU, 21 September 1999, *Albany*, C-67/96.

8 CJEU *FNV v Staat der Nederlanden*, case C-413/13 of 4 December 2014, §30.

9 Ibid

10 Ibid, §37. S. Robin-Olivier, « Une convention collective fixant le prix des prestations de travailleurs indépendants n’est pas nécessairement soumise au droit de la concurrence », *Revue Trimestrielle de Droit européen*, 2015, p.443.

11 European Parliament resolution of 15 June 2017 on online platforms and the digital single market (2016/2276(INI)).

ments on the working conditions of self-employed workers without employees.<sup>12</sup> Those guidelines belong to soft law. They are only a commitment of the Commission as to Union law. They do not prevent the sovereign action of national competition authorities even though they may be called upon by said authorities. Their substantive field of application is collective agreements which, by nature and given their object, are about working conditions – their own field of application being self-employed workers without employees, i.e., solo self-employed workers. Those guidelines do not create anything, they only refer to the elements that have been underlined by the CJEU case law highlighted above on false self-employed workers or self-employed workers who are in a situation similar to that of salaried workers. They apply to a vast array of self-employed workers, among whom those who work for platforms.

The guidelines define solo self-employed workers as ‘persons who *do not have an employment contract* or who are not in an employment relationship and who *rely primarily on their own personal labour* for the provision of the services concerned. *Solo self-employed persons* may use certain goods or assets in order to provide their services’. The text then presents different solo self-employed workers: 1. solo self-employed persons being in a situation comparable to that of workers, regardless of whether they are false self-employed workers, since the Commission considers they are economically dependent solo self-employed persons; 2. solo self-employed persons who perform the same or similar tasks ‘side-by-side’ with workers; 3. solo self-employed persons working through digital labour platforms; 4. solo self-employed persons who are not in one of those previous situations but deal with counterparties that have a certain level of economic strength,<sup>13</sup> which results in a clear imbalance in bargaining power. Finally, the guidelines also exclude from the field of application of Article 101 TFEU collective agreements concluded by self-employed persons pursuant to national or EU legislation which also have ‘social objectives’. Among all those cases, the one based on the existence of a clear imbalance of the bargaining power must be compared to the grounds of the 12th December 2018 ECSR decision and may be used as a general and theoretical ground. The French legislator implicitly belongs to that school of thought since it has created a title in the Labour Code that applies to self-employed workers who are imposed conditions on the exercise of their business activities by price-setting platforms.

The guidelines moreover present the layout elements of that new type of collective bargaining and of its results. First, those agreements may be negotiated for workers through social partners as well as associations and directly by groups of workers. Allowing for the right to collective bargaining outside trade unions breaks with the trade union monopoly that presides over the collective negotiations of salaried workers in the EU member States. That is also the option chosen by the French legislator. Second, those agreements may be the result of existing collective conventions which have been concluded by salaried worker/self-employed worker organisations. Third, those conventions on working conditions may deal with different aspects – remuneration, working time, holiday, leave, physical spaces where work takes place, health and safety, insurance and social security. This is not a complete list, but it has one limit: the agreements that go beyond the improve-

<sup>12</sup> Communication from the Commission, OJEU 18 March 2022, C 123/1.

<sup>13</sup> That economic strength is set at a yearly turnover of more than 2,000,000 euros or when the workforce comprises at least 10 salaried employees.

ments of working conditions are subject to competition law. That limit will undoubtedly be interpreted and challenged.

The European guidelines finally suggest that the modes and results of the collective negotiations should be included into what already exists or that a *sui generis* dialogue should be created from beginning to end. It is that second option that French public authorities have chosen.

## 2 Creating an *ad hoc* system of social dialogue for self-employed persons working for mobility platforms

It is not the first time that the French legislator has admitted self-employed persons' right to collective bargaining.<sup>14</sup> However, as to self-employed persons working for mobility platforms, the French legislator has gone further by creating a completely new and autonomous system of social dialogue with its own institution – the Autorité des relations sociales des plateformes d'emploi (ARPE).<sup>15</sup> That legal construction partly imitates<sup>16</sup> and at the same time breaks with the French common law of collective negotiation. There are breaks as to actors (A) and ends (B).

### (A) Break-ups as to the actors of collective negotiation

The legislator has introduced a major break with the principle of trade union monopoly to negotiate and conclude collective working agreements – probably for two reasons. The first one is that new actors have appeared under the form of spontaneous groups, which were created for collective mobilisations and then as advocacy groups for platform workers.<sup>17</sup> The second results from the fact that those new actors, having real legitimacy in the eyes of their working community and expertise on the conditions of business activity exercise, have, over a very short period of time, taken on the stature and position of a key social actor.<sup>18</sup> That

14 It is the same for non-salaried managers (Art.L.7322-3 of the French Labour Code), performers (Art.L.212-14 of the French Code of Intellectual Property), or general insurance brokers (Act of 16th April 1996).

15 It is a public institution, located in the Ministry of Labour and Transports, which has functions related to the organisation of social dialogue, protection of workers with a mandate, approval of sector agreements, and mediation in case of litigation as to the implementation of a collective sector agreement.

16 In a mirror-image of the French common labour law, actors of social dialogue are elected nationally every four years by electronic single ballot. Each worker has one vote per sector, whatever the number of platforms for which they work. The election is organised by acronym, that is, workers vote for trade unions, which in turn elect their representatives. The criterion of audience is that of common law (8% of ballots cast). In terms of the protection of the representatives of workers, when there is a breach of contract, an authorisation must be asked for to ARPE, the decision of which may be appealed before an administrative court. The order provides adapted voter base conditions (having performed at least five times per month for at least 3 of the 6 months prior to the election. Representatives are protected during their term and for six months after the end of the latter). Mimetically too, the legislators have introduced a yearly obligation to negotiate on at least one of the following topics: 1) income, including the price of service supply; 2) conditions of the exercise of the activity; 3) professional risk prevention and damage to a third party; 4) the development of professional skills and security of vocational careers; 5) other topics are listed as optional (complementary social protection, work control by the platform, trade relations breach).

17 L. Rioux, « Etat des lieux, lutte et syndicalisation des travailleurs des plates-formes de livraison, *Droit ouvrier*, 2022, No 890, p.414.

18 A. Trenta, « Militer dans l'économie des plateformes. Rapport à l'action collective et au syndicalisme de livreurs engagés », *La revue de l'Ires*, No 106 ; 2022/1, p.95.

is the case of the CLAP (Collectif des Livreurs Autonomes Parisiens) delivery workers, which was created in April 2018.<sup>19</sup> Opposite those groups/associations which advocate for the recharacterisation of the employment relationship, there is FNAE (Fédération nationale des auto-entrepreneurs et micro entrepreneurs) which was created in 2009 and which aims to protect and improve the self-employment regime.<sup>20</sup>

The action of trade unions as to the development of new self-employed workers remains fragmented and limited to some very specific sectors where there are many self-employed or freelance workers (transportation, media, communication, entertainment). Advocating for self-employed persons' rights inside worker trade unions is not obvious due to statuses, traditions and strategies.<sup>21</sup> In France, the CFDT trade union has chosen to outsource self-employed unionisation by creating Union indépendants which is for all the workers whose self-employment activity is a complement to their main activity, who do not have salaried employees, and whose activity, generating at least 50% of their income, is not governed by a professional order.<sup>22</sup> Conversely, the other trade unions, CGT, CGT FO, SUD and CNT have progressively integrated platform workers into their organisations. For their part, platforms have been structured outside employer organisations, and some of them have joined the Association des plateformes des indépendants (API) created in October 2019.

Mobility platforms, professional trade unions and associations under the 1901 law can therefore run for representative elections of self-employed workers,<sup>23</sup> 'provided the representation of those workers and the negotiation of conventions and agreements which apply to them are part of their company purpose'. Such normative break has consequences on the relations that have to be built between traditional actors, which are experienced in collective bargaining, and those new actors, which have a sector-specific or even local field of intervention, which may result in corporatist attitudes.<sup>24</sup> That is quite the opposite of the world of salaried employees whose organisations have been built and consolidated thanks to broadened, inter-professional and/or inter-sector solidarities. In any case, the arrival of associations in the field of self-employed workers' collective bargaining is going to change the latter's meaning and scope.

## **(B) Break-ups as to the ends of collective negotiation**

The French legislator has introduced two differences compared to the ends of conventional law which, from a social public order perspective, aim not only to improve working conditions, but also smooth out

19 See I. Daugareilh, *Formes de mobilisation collective et économie de plateformes*, sp.p.246ff. [<https://halshs.archives-ouvertes.fr/halshs-03615403>]

20 Ibid, sp.p.300ff.

21 A. Jan, « Des salariés comme les autres ? La CGT au défi de la syndicalisation des autoentrepreneurs des plateformes de livraison de repas », *La revue de l'Ires*, No 106 ; 2022/1, p.63.

22 They are occasional individual workers, in a way, and are called 'slashers'. They do not have multiple activities, but multiple statuses, which is often the case with so-called knowledge professions, especially communication, media, culture, design or graphic design. The Union has joined the 3C trade union of the CFDT which is represented as the Confédération on the Union board. A similar initiative was launched at the same time in Belgium by trade union CSC, which is close to CFDT. See Daugareilh, *Formes de mobilisation collective*, op.cit. esp. p.309ff.

23 Those of delivery of goods and transport of passengers.

24 The participation rate has been very low despite a high involvement of platforms together with ARPE: 1.83% of delivery workers and 3.91% of private-hire chauffeurs out of 120,000 delivery workers and private-hire chauffeurs with a vote.



competition among workers, which Marc Rigaux calls social competition.<sup>25</sup>

The French legislator has delegated to the actors of the social dialogue the task of creating the rights and duties of self-employed platform workers. However, by excluding those workers from the field of application of labour law, it has opened the way for social dialogue without safeguards, without lower limits, without public order, without even references or landmarks in suppletive legal rules. That suggests that what is being aimed at here by the legislator is not the improvement of working conditions, which is a historical function of collective negotiation, but more probably a political will to reduce social and legal conflicts which have left their mark on this sector of activity, as well as a withdrawal of the State from its regulatory function. Without imperative legal minimum, social dialogue risks creating a situation in which the bargaining power is in favour of platform organisations against the non-unionised groups of workers that have the majority necessary to conclude an agreement.<sup>26</sup> While collective negotiation is a means to compensate for the inequality of the parties to an employment contract, social dialogue with platforms is the exact opposite. For that matter, the agreement concluded for the delivery workers by FNAE and API,<sup>27</sup> and approved by ARPE, on minimal hourly average earning of 11.75 euros/hour on a one-month period – which does not include waiting time or the worker's taxes – shows a misuse of social dialogue in aid of the platforms' interests.<sup>28</sup>

The legislator has introduced another difference by ignoring the existence of a collective convention on labour in the transport branch which has been extended since 1955.<sup>29</sup> That branch convention has included urban fare in its field of application since 1988.<sup>30</sup> The 'delivery worker' additional clause 94 of 13th December 2005 gathers all the provisions on working time, remuneration, training and complementary social protection. The initiative of the French legislator to decree a level of negotiation only for mobility platforms without social consultation with social partners is at least out of touch with reality and unheard-of in France. Thus, the workers of companies other than platforms benefit from the legal and conventional protection under the transport collective agreement, while those working for platforms only have concluded agreements that have been authorised by ARPE. How will companies other than platforms be able to resist such competition? By putting the law on collective negotiation to the service of platforms' interests, the French legislator puts in competition the self-employed workers of platforms and those who are salaried by companies, which opens a vast field of application for the Gresham law according to which bad money drives out good.

25 M. Rigaux, *Droit du travail ou droit de la concurrence sociale ? Essai sur un droit de la dignité de l'homme au travail (re) mis en cause*, ed. Bruylant, 2009.

26 That is the case of FNAE for the delivery workers college, and AVF for private-hire chauffeurs.

27 Union indépendants has not signed this agreement following an online consultation of 940 delivery workers, 52.2% of whom disagreed. Source Le Monde, Jeudi 11 May 2023, p.17.

28 The minimum hourly wage of a salaried employee was 9.11 euros as of 1st May 2023. The after-tax income of a self-employed delivery worker is 7.90 euros /hour (net of the social security expenses flat rate of 22%). That figure would be lower if it were relative to the full time of activity including waiting time, to which one should add the buying and/or maintaining of tools and clothes. The situation is the same for the agreement on the minimal price of a fare for private-hire chauffeurs, which is set at 7.65 euros, regardless of distance and duration.

29 Decree of 1st February 1955, French OJ 26 February 1955.

30 Dressen M., Mias A., « Action publique et institution d'une branche professionnelle. Le cas de la course urbaine », *Travail et emploi*, No 114, 2008, p.7

## Conclusion: Is social dialogue in the interest of platforms or workers?

Finally, the first results of social dialogue in France – at least as to the agreements on the income that it is possible to assess – show the failure of the scenario of a *sui generis* social dialogue, which is out of touch with reality or ‘without compass’.<sup>31</sup> Wrested without negotiation by platforms, it has in no sense improved the income of chauffeurs or delivery workers, and has even been followed by a change in the platform pricing system which has resulted in a decrease in remunerations!<sup>32</sup> After seducing public authorities in Europe and in France in particular, as Uber queues show, platforms have embarked on the conquest of trade unions. They have already managed to get signed agreements – with GMB on 26th May 2021 in the United Kingdom, at the international level with ITF in February 2022, with FGTB in Belgium on 21st October 2022 and in Australia with the transport trade union (TWU) on 28th June 2022.<sup>33</sup> What can be said of that rising strategy of platforms which looks so much like dialogue washing? For better or for worse?

31 As G. Loiseau said in « Travaillleurs des plateformes de mobilité : où va-t-on ? » *JCP S*, 25 May 2021, No 1129.

32 J. Thomas « Livreurs, VTC...Le dialogue social tourne court », *Le Monde* 6 November 2023, p.15.

33 A. Dufresne, « La stratégie politique d’Uber : le lobbying et le dialogue social », *La Revue du salariat*, 2022.

# PROTECTION AND SOCIAL SECURITY OF PLATFORM WORKERS

## : Development and Recent Legislative Policies of France's Social Security System

Yojiro Shibata<sup>\*</sup>

### (1) Problems and considerations

The style of work in which people accept work orders through the apps offered by platform operators (“PFs”) is growing, and more people are now working through PFs (“PF workers”). Of these PF workers, quite a few are working as self-employed individuals through outsourcing agreements or other arrangements.

Compared to employed people, however, the self-employed don’t receive sufficient social security benefits such as subsidies that help cover their risk<sup>1</sup>. This is especially true with social insurance for individuals, because worker’s insurance (accident and unemployment) assumes that the person is employed, therefore making the self-employed inapplicable. And with medical care and pensions, two of the pillars of social insurance, the self-employed are required to pay the entire insurance premium themselves (through the national health insurance system, and as “Category-1 Insured Persons” in the national pension system) while premiums for employed people are split half and half between the employee and the employer (through the employer’s health insurance and pension systems). In terms of benefits, there is no requirement to provide self-employed people with compensation for time off for reasons of injury, illness, or giving birth (national health insurance doesn’t offer a mandatory injury and sickness allowance, and no such payments are available for childbirth), and only employees can receive welfare pensions. Moreover, for both costs and benefits, there are mechanisms that allow the supporting spouses of employees to receive payments without even paying any insurance premiums (as dependents in the employer’s health insurance system or Category-3 Insured Persons in the national pension system), but no such mechanisms exist for the self-employed.

But it’s not as simple as just applying the same social security benefits of the employed to the self-employed as well. This is because doing so would greatly increase the burden on PFs, which would in turn

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<sup>1</sup> During past reforms to social security eligibility, temp workers were an issue, and there was a move to apply the social security programs for fulltime employees to them as well. But with PF workers, the issue is whether they are “employees” in the first place. Also, the same social security programs that apply to employees also apply to PF workers who are deemed to be employees based on how they actually work.

hinder the growth of business and the styles of work that rely on them as well as their potentially positive effects on society, the economy, and the environment. Workers would also lose the opportunity to select a type of work with less restrictions on their time and place because they are not employees.

This article therefore presents a perspective for considering PF worker protections based on the social security policies of France, which—like Japan—has seen remarkable growth in business and labor that uses PFs.

## (2) Why France?

France's social security<sup>2</sup> system is the subject of our consideration for two reasons.

The first is that it has a similar structure (and thus similar problems). Both France and Japan have developed social security systems that place the social insurance system for employees at their core. Furthermore, they both have coexistent systems for self-employed individuals and have expanded who is eligible for social insurance. As a result, the differences in covered risk and benefits available to employed and self-employed people (see table) play a central role in the social security issues that arise from work done through PFs in France as well.<sup>3</sup>

And the second reason is the different approaches to reform and its rapidity adopted by the two nations. In Japan, reform has taken place while maintaining the bipolar structure of “employees” and “everyone else,” and there have not yet been many changes to the social security system with regard to PF workers. Conversely, France has enacted reforms that establish the same level of benefits for both groups, as well as reforms that merge the different systems for employed and self-employed people. Some self-employed people have been eligible for worker's insurance since 2016, and unique reforms for protecting PF workers have also been implemented.

All of this suggests that France's system is relatively easily comparable to Japan and provides valuable insights. In the following section, we will explore the development of France's social security programs for self-employed people (1) and examine the post-2016 reforms to the worker's accident and unemployment insurance options available to self-employed people (2). Finally, we will look at the implications for Japan (3).

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## 1 Self-employment under France's social security system

The following is a summary of how France's social security system developed, focusing on reforms related to self-employed workers.

2 In France, the following are referred to as social security (*sécurité sociale*): 1) social insurance (the various programs for medical, maternity, disability, death, old-age pension, and surviving family members), 2) worker's compensation, and 3) the family allowance. The term “social protection” (*protection sociale*) is used more broadly to include things like unemployment insurance and public assistance. Both are referred to as “social security” in this article.

3 C. LARRAZET, « Régime des plateformes numériques, du non-salariat au projet de charte sociale », *Droit social*, février 2019, p.171. ; L.-C. VIOSSAT, « Les enjeux clés de la protection sociale des travailleurs de plateformes », *regards en3s*, n°55, p.93.

**Table: Differences in social security for the employed and self-employed in France (as of May 2020)**

Type of Protection	Self-Employed	Employed
Healthcare Costs	Identical benefits	
Suspension of Work	<p>Closure compensation allowance equal to 1/730 of the average work income for the most recent three calendar years</p> <p>7-day waiting period (since 2018, it is only paid when the work stoppage is 7 days or more, and the waiting period is 3 days)</p> <p>No closure compensation allowance for micro-entrepreneurs that earn less than €3,806.80 per month</p>	<p>Closure compensation allowance equal to 50% of the person's daily wages</p> <p>3-day waiting period</p>
Maternity Leave	<p>Same duration as employed women</p> <p>Compensation for leave that is 8 weeks or more</p>	16 weeks with a compensation allowance
Supplemental Medical Insurance	No compulsory enrollment	<p>Employers are required to provide supplemental medical insurance to all their employees</p> <p>Employers are responsible for paying at least 50% of the insurance premiums</p>
Family Benefits	Identical benefits	
Getting insurance premiums for basic old-age pension paid (in quarterly units)	<p>Self-employed individuals with a low income can have them paid for three quarters of the year at the minimum premium rate for the basic old-age pension (€827 in 2019)</p> <p>Micro-entrepreneurs must earn a minimum amount of revenue</p>	Can have insurance premiums paid for one quarter of the year at a basic rate of 150 times the minimum wage ( <i>salaire minimum de croissance</i> or “SMIC”) for each wage period
Workplace Injury or Illness	No compulsory enrollment	Workplace injury or illness division of social security
Job Loss	Self-Employment Allowance	Unemployment insurance

Source: Partially modified from M. FORISSIER (et al.), « Travailleurs des plateformes: au-delà de la question du statut, quelles protections? », Rapport d'information, commission des affaires sociales, Sénat, n°452, 20 mai 2020, p.30.

### (1) Creation of social security in 1945—Failure to universalize and the establishment of multiple systems

Social security was established in a systematic way in France in 1945. The idea at the time was *généralisation* (known as “universal healthcare” in Japan) under a single program called “general program” (*régime général*), which would apply to all French residents. However, this failed due to resistance from the various layers of society. This was true of self-employed individuals as well—they refused to participate in the “general program” due to reasons such as the high cost of its insurance premiums and the emotional anguish of being middle-class citizens lumped together in the same program with members of the working class.<sup>4</sup>

<sup>4</sup> See (for example) P. LAROQUE, « De l'assurance sociale à la sécurité sociale », *Revue internationale de travail*, vol.57, n°6, p.635.

So by 1948, independent retirement-pension systems had already been established for artisans, self-employed people in commerce and industry, and liberal professions (doctors, lawyers, accountants, etc.). These were collectively known as “independent programs” (*régimes autonomes*). In other words, programs for the employed and the self-employed coexisted immediately after the systematic implementation of social security.<sup>5</sup>

## (2) Growth of the social security system—Thirty Years of Glory (*Trente Glorieuses*)

During the subsequent 30 year period of rapid economic growth known as the “Thirty Years of Glory” (1945–1975), differences between the programs for employed and self-employed people continued to shrink. For example, a medical insurance system for self-employed individuals was created in the 1960s. In the 1970s, there was a movement toward matching the benefits provided under the various programs to a “general program” (“harmonization”),<sup>6</sup> and policies of “compensation” were enacted to transfer funds beyond the boundaries of individual programs in response to the worsening financial state of social security. Simultaneously, France succeeded in creating a “universal coverage under a single system” by eliminating the requirement of employment for receiving the family allowances, which have their own unique historical background, and by making foreign residents legally residing in the country also eligible to receive benefits.

## (3) Universalization of medical insurance’s benefits in kind<sup>7</sup> — Reforms in the late 90s and onwards

The benefits in kind (medical services) of medical insurance are provided based on need (medical necessity), not according to the person’s (working) income. This is why the reforms expanded eligibility for benefits in kind to “all citizens,” not just those who are employed at a job. Law No. 99-641 of July 27, 1999, created the *Couverture maladie universelle* or “Universal Health Coverage” (CMU), a program available to all residents of France who are unable to enroll in any employee-insurance systems. This program was to coexist with the employee-insurance systems already in place. The CMU allowed all people to enroll in medical insurance (thus achieving universalization) and to receive equal benefits in kind regardless of their work status.

In addition, Law No. 2015-1702 of December 21, 2015, abolished the CMU and created *protection universelle maladie* (PUMa). This made everyone in France eligible to be reimbursed for medical expenses, whether they work at a job or are simply legal and stable residents of the country; this weakened the link between occupation and healthcare protections. It also eliminated the idea of adult dependents—the right

5 In addition, some professions had their own unique social insurance since prior to WWII, including the “special programs” (*régimes spéciaux*) for people working in the railroad, mining, and maritime-transport industries as well as the “agricultural programs” (*régimes agricoles*) which gave special consideration to the needs of farmers.

6 For example, Law No. 72-554 of July 3, 1972, standardized the basic old-age pension benefits for artisans and merchants to the same level as the “general program”. Also, steps were taken to bring the low reimbursement rates for medical services under “independent programs” closer to the “general program”.

7 See Yojiro Shibata’s “France-Iryo-Hosyo-Seido ni okeru jigyonushi no yakuwari (Role of Employers in France’s Medical Security),” *Kenporen-Kaigai-Iryo-Hosyo (National Federation of Health Insurance Societies, Foreign Medical Security)*, No.128 (2021), p.19.

to receive payments for benefits in kind was now available to everyone of adult age as a natural right (*droit propre*).

#### (4) Consolidating “independent programs” into a “general program”<sup>8</sup> — Post-2000s reforms

While they were reducing disparities in benefits (see (2) above), “independent programs” were also increasing their number of systems. And since each of these individual programs had maintained its independence, the decentralized and complex nature of their management and administration became a problem. In response to this, the “social program for the self-employed” (*Régime social des indépendants*: RSI) was established in 2005 to integrate the social insurance programs for artisans, people self-employed in commerce or industry, and in the agricultural sector (however, the old-age pension system for the liberal sector was not integrated). The RSI collected insurance premiums and social security contributions, acting as a single point of contact that self-employed people could consult regarding matters related to social security.

But it was plagued by various management problems—in particular, it was unable to collect large sums of insurance premiums because its link to the URSSAF's system that handles such collections was so poor that it couldn't process premium payments.<sup>9</sup> This led to the RSI being abolished and all its organizational functions being consolidated into a “general program”.

Law No. 2017-1836 of December 30, 2017, established a period of transition during which authority would be transferred from the RSI to the “general program”. At present, consolidation of the RSI into the “general program” only affects organizational functions, so benefits and premiums have remained the same for people that were formerly eligible for the RSI (benefits and premiums are not currently the same for self-employed people and those who are employed, the latter of whom will be the main ones insured under the “general program”).

## 2 Post-2016 reforms to worker's accident and unemployment insurance for the self-employed

As shown above, France's social security programs for employed and self-employed residents were growing closer in terms of family allowances, medical treatment, pensions, and organizational administration. Yet large gaps remained in the protections available after a worker was in an accident or involuntarily lost their job (when an employee became unemployed).<sup>10</sup> So in 2016, we began to see legislation that guarantees such protections for self-employed people and PF workers.

<sup>8</sup> See M. BORGETTO (et al.), *Droit de la sécurité sociale*, Dalloz, 20e éd., 2023, pp.1097 et s.

<sup>9</sup> Tomoyuki Kato's “Hatarakikata ni churitsutekina shakaihoken-seido ni tsuite (A Workstyle-Neutral System for Social Insurance),” *Shakaiho no nakano jiritsu to rentai (Independence and Solidarity within Societal Laws)*, compiled by Tetsunari Doko et al. (Junposha, 2022), p.409.

<sup>10</sup> C. LARRAZET, *op. cit.* note3, p.172.; L.-C. VIOSSAT, *op. cit.* note3, pp.93 et s.



### (1) El Khomri law (labor-reform law)

Enacted on August 8, 2016, the El Khomri law (No. 2016-1088; named after the labor minister at the time of the reforms; also known as the “labor-reform law”) includes provisions aimed at making labor compatible with digitization as well as those related to labor that is performed through a PF.

#### ① Social responsibility of PFs

Section 60 of the El Khomri law (Labor Code L. 7341-1 onward) protects PF workers by designating an electronic PF<sup>11</sup> as a *responsabilité sociale des plateformes* or “Social responsibility of platforms” with obligations to the self-employed people (PF workers) who use it for work “in cases where the [PF] itself determines the characteristics of the products or services offered as well as their value.” These obligations include matters related to workplace injuries, the development of occupational skills, and the right to unionize.

Regarding work-related injury and death, PFs are responsible for paying the cost of insurance premiums (within a certain range) in cases where PF workers have either established insurance agreements that cover risks related to workplace injury or else enrolled in the voluntary worker’s insurance described in the Social Security Code (compensation for medical expenses related to workplace accidents, subsidy payments if permanently disabled and unable to work, regular payments to dependents in the case of death in the workplace, etc.). However, a PF is not obligated to do this if it offers and pays the premiums for group insurance that provides at least the same level of protection as the voluntary worker’s insurance described in the Social Security Code. Only PF workers who make above a certain threshold of revenue through the PF are eligible for such benefits.

#### ② Assessing the social responsibility of PFs

Unlike with “legal” obligations, the “social” responsibilities of PFs do not come with penalties attached, making them insufficient and bringing their effectiveness into doubt.<sup>12</sup>

In practice, when establishing an insurance agreement or enrolling in a voluntary insurance policy for work-related accidents, the PF worker is required to submit a reimbursement claim to the PF for that insurance premium (Labor Code D. 7432-5). This means that the PF isn’t required to immediately bear the cost of the premium, and it isn’t obligated to enroll PF workers in worker’s insurance.<sup>13</sup> Plus, PF workers that don’t earn above a certain amount aren’t even eligible.

With regard to this point, some insist that PFs should be forced to pay for insurance premiums even when there is no labor contract (when the individual isn’t considered an employee), focusing on the fact that PFs “are financially benefitting from the activities of the workers”<sup>14</sup> (equivalence principle). The fact of the matter is that France already has social security programs that insure artists and authors, and these programs

11 Article 242 bis of France’s general tax code defines it as a “company which puts people in contact electronically with a view to the sale of a good, the provision of a service, or the exchange or sharing of a good or a service.”

12 I. DESBARATS, « Quel statut social pour les travailleurs des plateformes numériques? La RSE en renfort de la loi », *Droit social*, novembre 2017, p.979.

13 This creates the possibility that PFs will pressure PF workers to not enroll in worker’s compensation (J. DIRRINGER, « L’avenir du droit de la protection sociale dans un monde ubérisé », *Revue française des affaires sociales*, n°2, 2018, pp.42 et s.).

14 See C. LARRAZET, *op. cit.* note3, p.172. ; R. MARIÉ, « La sécurité sociale des travailleurs indépendants: évolutions et perspectives », *Revue de droit sanitaire et social*, n°2 / 2020, p.377.

are funded not only by the premiums of the insured but also through the agents and distributors of their artistic works, despite the nonexistence of a labor contract (Social Security Code L. 382-4). Such distributors bear those costs because they “are financially benefitting from the activities of another.”<sup>15</sup> And their portion is calculated not from the income of the artist or author but from the sales revenue earned by the distributor through the commercialization of the artistic works. Considering the above, it isn’t an outlandish claim that the worker’s compensation insurance for PF workers should be based on the revenue of the PF itself (rather than that of the PF worker) and should be funded wholly or in part by the PF.

Still, Uber and Deliveroo (two of the most well-known digital PFs) have partnered with major private insurer Axa to offer insurance free of charge to their drivers (PF workers).<sup>16</sup> This began after the El Khomri law was enacted, revealing that some PFs are proactively moving to protect their workers as part of their social responsibility regarding worker’s compensation.

But their efforts fall short. Let’s take a look at Uber’s insurance agreement,<sup>17</sup> which chooses to define the risks it covers in a unique way rather than follow the standards for worker’s compensation supplied in the Social Security Code. Essentially, it covers bodily harm caused by an external source from the time the trip starts until 15 minutes after the app is notified that the destination has been reached. This is in contrast to Social Security Code L. 411-1, which states that the determination of whether something is a work-related injury cannot be influenced by the cause of the injury. In fact, the Uber agreement explicitly excludes patients with cerebrovascular disease as well as events that are caused wholly or in part by pathological factors (in other words, it only covers traffic accidents). It also does not authorize payments for illnesses that occur due to the worsening of an underlying condition due to severe working conditions (intense stress, long working hours, etc.), because they are caused in part by a pathological condition. This strays from social security judicial precedent, which states that the cause of the accident is assumed to be work-related unless there is proof that the accident is completely unrelated to work.<sup>18</sup>

## (2) Professional Future Law — The self-employment allowance

Law No. 2018-771 of September 5, 2018, on the Freedom to Choose One’s Professional Future (the “Professional Future Law”) reformed unemployment insurance and established provisions related to support systems and frameworks that help workers develop their professional skills.

Section 51 of the Professional Future Law (Labor Code L. 5424-24 onward) establishes an unemployment allowance for individuals who are self-employed as sole proprietors or subcontractors (*allocation des travailleurs indépendants*). Through the changes enacted in Law No. 2022-172 of February 14, 2022, this allowance now provides a fixed sum of 26.30 euros a day (about 800 euros each month) for a maximum of 182 days,

<sup>15</sup> C. LARRAZET, *ibid.*, pp.171 et s.

<sup>16</sup> Uber’s insurance agreement can be viewed at <https://uber.app.box.com/s/ceghmolgdqhryr8my54fzweeyg5t5sc>, while Deliveroo’s insurance agreement can be viewed at <https://riders.deliveroo.fr/fr/indemnité-maladie>.

<sup>17</sup> See M. DEL SOL, « La protection sociale complémentaire des travailleurs de plateforme au risque du marché », *Droit social*, juillet-août 2021, p.596. The agreement referenced in that text is dated January 2021, while the current version is April 2023; however, there have been no changes that impact the points raised in this article.

<sup>18</sup> Cass. civ. 2<sup>e</sup>, 28 janvier 2021, n°19-25.722.

depending on 1) previous time spent self-employed, 2) the state of the business,<sup>19</sup> 3) income earned through self-employment,<sup>20</sup> 4) job-hunting status, and 5) income earned from sources other than work-related activities. (Labor Code D. 5424-74 onward. The unemployment allowance paid to employees is proportional to their income, and the average payment received in the month of June 2023 was 1,295 euros.<sup>21</sup> The payment duration also varies according to the economic climate and the age of the individual, with a maximum of 36 months (if over the age of 55 in a bad economy.)).

### (3) Mobility Orientation Law

The social responsibility of PFs was recognized once again in the Mobility Orientation Law (*orientation des mobilités*), Law No. 2019-1428 of December 24, 2019. Aiming to optimize mobility, the law expanded the social responsibilities of PFs that are involved in mobility and delivery, similar to the political policies that reduce regional disparities in mobility (lack of transportation) or that address the environment (measures against air pollution etc.).

#### ① Increasing the social responsibility of PFs regarding mobility

Section 44 of the Mobility Orientation Law (Labor Code L. 7342-8 onward) increased social security for PF workers engaged in two activities, 1) driving (dispatch) services, and 2) product delivery via two- or three-wheeled vehicles. It did this by having PFs formulate their own charters (*charte*).

A charter establishes the rights and obligations of the PF and its PF workers as well as the conditions and means of the PF's social responsibility. It also contains supplemental social security (Labor Code L. 7342-9, 8°). This is optional social security tacked onto the mandatory programs. In France, it plays a particularly critical role in health insurance. The PF submits its charter to the relevant authorities, who review whether the PF is compliant with the contents of the charter then approve it if so (a process known as homologation). The PF may then post the approved charter on its website and add it to its terms of use and its contracts with PF workers. It has been noted that this framework is significant as a “new, market-leading regulation that aims to improve social protections by creating dialogue between companies and employees and achieving evaluation and assessment from the market.”<sup>22</sup>

#### ② Differences in the draft bill

However, two big changes have been made since the bill was first drafted.

The first is that the draft mandated the supplementary social security in all instances. This was ultimately changed to language that says “guarantee supplementary social security depending on the circumstances,” so it isn't a requirement anymore. And even if a charter doesn't have any provisions related to the supplemen-

19 1) Engaging in a court-mandated corporate restructuring or liquidation, or 2) completely and definitively ceasing all activities due to a lack of financial sustainability.

20 At least €10,000 in a single year within the past two years.

21 See the website of the agency in charge of France's employment service (France Travail, the Public Employment Security Office) (<https://statistiques.pole-emploi.org/indem/indempub/221752>).

22 Shinpei Ishida et al.'s *Digital platforms to Rodoho—Rodosha-gainen no seisei to tenkai (Digital Platforms and Labor and Employment Law—A Comparative Legal Analysis of Worker Classification)* (University of Tokyo Press, 2022), p.92 (the part written by Yuichiro Mizumachi).

tal social security, this does not affect its approval (①).<sup>23</sup>

And the second change is that the creation of a charter and adherence to it after its approval cannot be used to reframe the service-provider agreements between PFs and PF workers as labor contracts (so basically, PF workers are still self-employed). This was done to protect charter-forming PFs from the risk of having their agreements with workers reclassified as labor contracts.<sup>24</sup> In exchange for escaping their responsibilities as employers, PFs would strengthen their (supplementary) social security for PF workers.<sup>25</sup> However, this provision was deemed unconstitutional by the Constitutional Council in a decision (No. 2019-794 DC) dated December 20, 2019 (②).

So, whether or not to include provisions in the charter that grant supplementary social security to PF workers was left up to the PFs (①), and offering compensation to promote the creation of charters was struck down by the Constitutional Council (②). As a result, the supplementary social security is not being reliably provided to PF workers.

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### 3 Conclusion — Organizing the issues

In this article, we examined France’s social security system with a focus on self-employment. Below, we will summarize the situation in France (1) then offer some points for consideration when studying how to protect the social security of PF workers in Japan (2).

#### (1) The situation in France

When France’s social security system was established in 1945, the goal was to cover all people with a single program (“*généralisation*”). “Independent programs” were created for the healthcare and pensions of the self-employed, however, and those programs ended up coexisting with the “general program” for the employed. Nevertheless, efforts were subsequently made to reduce disparities and adjust budgets in order to narrow the gap with the “general program”. The family allowance was made universal in the 1970s, and medical-insurance benefits were universalized by a Law No. 99-641 of July 27, 1999. On the administrative side, the various “independent programs” were consolidated in 2005 under the RSI, then merged into the “general program” in 2018 (except for certain parts).

In 2016, a movement began to protect self-employed people and PF workers from work-related injuries and unemployment. The El Khomri law made the worker’s compensation of PF workers a social responsibility of PFs. The Professional Future Law created the self-employment allowance and expanded unemployment insurance to include the self-employed. Then, the Mobility Orientation Law tried to grant supplementary social security to mobility-related PF workers through the creation of charters.

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23 Rapport du projet TransSEN, *Transformations sociales et Economie Numérique*, septembre 2021, p.71. (the part written by M. DEL SOL)

24 *ÉTUDE D'IMPACT : PROJET DE LOI d'orientation des mobilités*, novembre 2018, p.196.

25 M. DEL SOL, *op. cit.* note17, pp.594 et s.

From this, we can say that France has generally moved to reduce the disparity between the social security rights of the employed and self-employed, and it has somewhat severed the link between a person's employment status and the granting of those rights.<sup>26</sup>

Ultimately, recent reforms aimed at PF workers and the self-employed have two main features. The first is the use of private insurance. The worker's compensation stipulated in the El Khomri law is simply forcing PFs to participate (through cost-sharing or voluntary contributions) in private insurance arrangements, which is different than a public social security program (the supplementary social security defined in the Mobility Orientation Law can also be seen as private insurance). And the second is that the same protections are not necessarily provided for the same risks. Compared to the worker's compensation for employed individuals, the insurance for PF workers (which is private insurance as indicated in the first point) is limited in the types of accidents it covers. In addition, the self-employment allowance established by the Professional Future Law is a fixed amount, while the unemployment allowance for employed people is based on their income.

## (2) Points for consideration when studying social security protections for PF workers

The important thing about the above—although it should be obvious—is that it focuses on the “who,” the “what,” and the “how” when considering protections, rather than discussing the social security of PF workers as a single idea. And these three are mutually intertwined.

If we consider “who” is protected in France, we see the following sets of eligibility for (a part of) social security in the case of PF workers:<sup>27</sup> ① all people, including the unemployed (“*généralisation*”, similar to Japan's healthcare system); ② all employed people, including those who are self-employed (Professional Future Law); and ③ employed people and some (self-employed) PF workers (El Khomri law, Mobility Orientation Law). ③ defines the PF worker by focusing on the financial power that the PF has in unilaterally setting the prices of products or services being offered. The fact that PF workers are laboring under the influence of a financially superior entity makes them eligible for rights under social security.<sup>28</sup>

But “who” is eligible depends on “what” is being protected—i.e., what risks are being covered and how it relates to the person's professional activities. Then, as with guaranteed healthcare and financial assistance for families, all individuals became protected from the risk which is separated from their professional activities (①), so everyone is receiving the same benefits. On the other hand, when it comes to risks related to one's professional activities, we are still searching for a way to protect all employed people from job loss itself (②), and to protect some PF workers from injury or illness that occurs during the course of their work (③).

And even if someone is eligible for protection, “how” that protection should be implemented requires separate consideration. The situation in France reveals that there are at least three ways of looking at this. First is a) the type of program—whether it is public insurance or private insurance. Whether enrollment is

26 I. DESBARATS, *op. cit.* note12, p.983.

27 For a discussion of the diversification and fluidization of labor relationships as well as a summary of how labor (not employment) is connected to eligibility for certain rights under social laws, also see A.SUPIOT (dir.), *Au-delà de l'emploi. Transformation du travail et devenir du droit du travail en Europe*, Flammarion, 1999, pp.88 ets.

28 J. DIRRINGER, *op. cit.* note13, pp.42 et s.

compulsory or not depends on which it is. Also, the scope and level of protection can vary wildly if there is no single system, and this is true even if you go with social insurance, much less with private insurance.

Then there's the question of b) funding, whether through taxes or insurance premiums (a mix of the two is possible, as well). Moreover, the insurance premiums for social insurance are sometimes calculated according to one's income, while those for private insurance are typically set according to the risk involved. There is room for consideration of who bears the cost of the insurance premiums, too. In France, some have claimed that the entity who benefits from the professional activities of a worker should help pay for that person's social security (see 2(1)② above).<sup>29</sup>

And finally, this is connected to c) how the benefits are distributed. Generally, fixed-sum benefits are a good match for being funded by taxes, while those that scale by income are better for income-based funding (insurance premiums).<sup>30</sup> Still, we must be careful to avoid creating a situation where different benefit calculations are used depending on eligibility status (such as whether the person is employed or self-employed), even for the same type of insured event.<sup>31</sup>

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29 In Japan's special enrollment program for worker's compensation, self-employed people are responsible for paying the full amount of their insurance premiums; however, in France, PFs are required to bear some of these premium costs for PF workers as part of their social responsibility in some cases.

30 The fact that the typically low income of PF workers means that they won't receive sufficient protection under a benefit based on their income. So they are interested in combining fixed-sum benefits with tax-funded benefits (A. GAURON, « La protection sociale à l'heure du numérique: l'enjeu de l'affiliation et des cotisations patronales », *Revue française des affaires sociales*, n°2, 2018, pp.89 et s.).

31 Unemployment insurance in France is funded by employer-paid insurance premiums and proportional-rate taxes; employees receive benefits based on their income, while self-employed individuals receive fixed benefits. However, providing income-based benefits while using proportional-rate taxes rather than employee-paid premiums as the funding source creates inconsistencies between the funding and the benefits.





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— Vol. IV Platforms and Social Foundations —

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