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## Digisprudence without Frontiers

*As artificial intelligence grows in ability and information becomes more accessible, we are integrating these capabilities ever more closely with our natural biological intelligence.*

Ray Kurzweil

### 1. Introduction: Case study with reflections

Computing power is becoming cheaper, human biology is becoming better understood, and engineering is becoming possible on smaller and smaller scales.<sup>1</sup> Compared with those achievements, our case study concerning the *GrowMeApp* for families seems to be a very primitive version of the concept of code as law<sup>2</sup> in spite of the fact that it is able to take natural language instructions and carry them out in a complex physical environment. This is a new product on the Polish market, and it is worth making some general observations about it. The main purpose of this article is connected with the title of the paper, and is aimed at gaining a deeper understanding of legal issues through the eye of an algorithmic actor. The main questions are as follows:

- 1) How can one describe the *GrowMeApp*, and which criteria justify the designs that it has adopted?
- 2) What is digisprudence, and how can one analyze it?
- 3) Does the process of technological transformation from Artificial Intelligence (AI) through Artificial General Intelligence (AGI) to Artificial Superintelligence (AS) require a more profound consideration of equitable rights?
- 4) To what extent does technological life depend on the principle of 6R?
- 5) What kind of modern *praxis* proves that contemporary law in action is without frontiers?

<sup>1</sup> R. Kurzweil, *The Singularity Is Nearer: When We Merge with AI*, New York 2024 (Polish edition: *Osobliwość coraz bliżej. Kiedy połączymy się z AI*, trans. T. Lanczewski, Warszawa 2024), *passim*.

<sup>2</sup> J.R. Reidenberg, "Lex Informatica: The Formation of Information Policy Rules through Technology," *Texas Law Review* 1997, vol. 76, p. 553.

## 2. The *GrowMeApp* for families as *praxis*

### 2.1. Short description

This short description of the *GrowMeApp* for lawyers incorporates signifiers which communicate to the end-user what affordances are present and, therefore, how an artefact should be used.

This co-parenting application provides tools and substantive support for parents living separately and raising minor children together. The platform allows the proper development of the child based on bonds with both parents in a situation of living in two homes and prevents escalation of parental conflicts. *GrowMeApp* includes integrated modules that facilitate effective care. The application's organizational module allows parents to flexibly manage a care calendar, calculate and summarize expenses related to children, store and access important documents, and efficiently exchange important information. The consent granting and approval module is intended to help parents jointly exercise parental authority and make important decisions in matters concerning the child. The legal and mediation module allows for the creation of individualized parenting agreements based on applicable legal regulations and practice in family life.

The application's assumptions are based on innovation consisting in the pioneering use of the latest technologies to organize family life and support mediation processes. The proof of concept of the application was established over many years of experience of a team of the Legal Agreements Center, a private specialist support center for people involved in divorce, combining legal, psychological, and mediation competences.

### 2.2. Searching for equitable rights

Compliance of the product with equitable rights underlies the *GrowMeApp* as a legal approach, incorporating participation, transparency, due process, and the like.<sup>3</sup> It reflects a system of checks and balances that safeguard against the sirens of tyranny or those of market fundamentalism. The co-parenting application takes into account the concept of universal design based on eight principles: equal opportunities for all, flexibility in use, simplicity and intuitiveness, perceptibility of information, tolerance for errors, minimal physical effort, size and space sufficient for use, and perception of equality. The aim of the application is to provide tool and substantive support for parents living separately and caring for children. Ultimately, it aims to support families in periodic separations, to improve the organization of childcare, to support families including grandparents and guardians, and to support couples in the process of separation or divorce.

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<sup>3</sup> M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology*, Cheltenham 2015, p. 157.

### 2.3. Searching for the 6R principle

Compliance of the product with the principle of 6R was also carefully studied by the programmers of *GrowMeApp*. This co-parenting application aims, *inter alia*, to achieve implementations for Responsible Development, which is reflected in the 6R principle:

- Reduce (limiting the need to print documents and conduct digital correspondence);
- Reuse (reducing the need to create new materials);
- Recycle (encouraging users to take digital actions);
- Recover (reducing energy consumption in data centres);
- Repair (the ability to update and modify existing parenting agreements and digitally correct care schedules, instead of creating new copies or organizing additional meetings);
- Rethink (changing the approach to traditional legal processes to achieve ecological digital solutions).

## 3. Digisprudence as an alternative *praxis*

### 3.1. Alternative version of ‘law in action’

In the juridical realm one can distinguish between two categories of law, namely: law in books and law in action. When we work with AI, then these two important classes of legal norms should be observed through algorithmic innovations and the emergence of big data. Our aim in this article is to investigate the new forms of interaction of law with technology and governance in order to prevent the disadvantage of legalism in the context of the rule of law.<sup>4</sup> We are of the opinion that *lex digitalis* or digisprudence is enhancing its normative strategy as an alternative version of law in action.

Our point of view is illustrated by this diagram:

We discuss AI as a lawyer’s assistant in family cases in the second volume of the popular collection *Czy algorytmy połączą Biblię z komputerem?* [Will algorithms connect the Bible to the computer?].<sup>5</sup> It appears from descriptive analyses that in recent years there have been a number of initiatives aimed at regulating “dark patterns” in digital product design. In this article, we try to introduce more sophisticated discussion concerning not only the *GrowMeApp*, but also another code that facilitates data-driven services based on machine learning. Looking at algorithmic regulations from the perspective of the rule of law, we can make explicit the most fundamental rules

<sup>4</sup> M. Hildebrandt, “Legal and Technological Normativity: More (and Less) than Twin Sisters,” *Techné: Research in Philosophy and Technology* 2008, vol. 12, no. 3.

<sup>5</sup> A. Brodecka, B. Bednarski, “AI w roli doradcy w sprawach rodzinnych” [AI as the Lawyer’s Assistant in Family Cases] [in:] *Przedwiośnie ery sztucznej inteligencji: technologia – zarządzanie – prawo*, vol. 2: *Czy algorytmy połączą Biblię z komputerem?*, eds. E. Wittbrodt, Z. Brodecki, M. Dargas-Draganik, Gdańsk 2024, pp. 374–384.

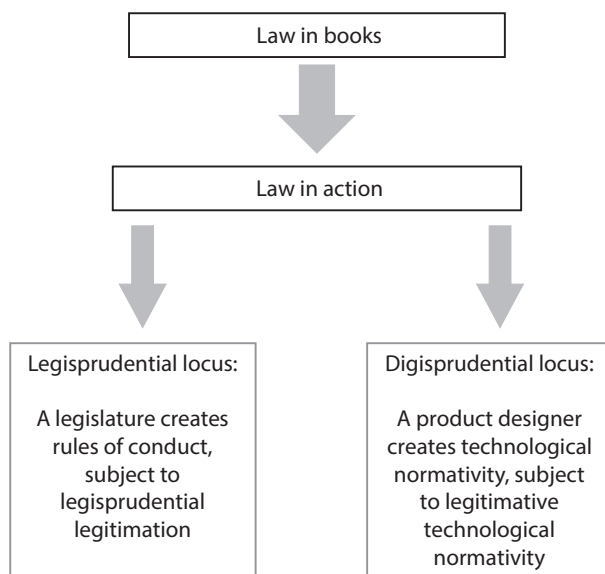


Fig 1. New structure of law

Source: Authors' own elaboration.

of the relevant commercial design environment. These rules create a technological constitutionalism.<sup>6</sup>

We live in the archipelago of AI. So far, we have observed only fragments of knowledge in an ocean of ignorance. The lack of the whole picture of the archipelago makes it hard to understand the evolution from biological through cultural to technological life.<sup>7</sup> We may observe how IT and AI have been increasingly integrated into society. New technologies present many fundamental questions concerning safety and security in cyberspace. Such collective intelligence will be more advanced when the Internet (digital intelligence) and autonomous machines (universal intelligence) create an opportunity to follow the holistic picture of the tree of wisdom<sup>8</sup> and, in consequence, makes possible an inter-, trans- and supra-disciplinary analysis of digisprudence (tab. 1).

<sup>6</sup> See: L.E. Diver, *Digisprudence: Code as Law Rebooted*, Edinburgh 2022, pp. 65–67.

<sup>7</sup> See: M. Tegmark, *Life 3.0. Being Human in the Age of Artificial Intelligence*, New York 2017 (Polish edition: *Życie 3.0. Człowiek w erze sztucznej inteligencji*, trans. T. Krzysztóń, Warszawa 2019). Cf. Z. Brodecki, A.M. Nawrot, *Świątynia w cyberkulturze. Technologie cyfrowe i prawo w społeczeństwie wiedzy* [The Temple in Cyberculture. Digital Technology and Law in the Knowledge Society], Gdańsk 2007, *passim*.

<sup>8</sup> Based on the map of philosophy setting out the centre and periphery. See: A. Lacey, *The Oxford Companion to Philosophy*, Oxford–New York 1995 (Polish edition: *Encyklopedia filozofii*, vol. 1–2, ed. T. Honderich, trans. J. Łoziński, Poznań 1998–1999), d. 2, p. 1039.

Tab. 1. Interdisciplinary, transdisciplinary, and supra-disciplinary approaches

| Type of approach            | Description                                                                                                                                                                                                                                                       |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Interdisciplinary approach  | This observes law in interaction with technology and governance through the relations between the peripheral disciplines of philosophy.                                                                                                                           |
| Transdisciplinary approach  | This observes law in interaction with technology and governance through the relations between the peripheral disciplines of philosophy and above them (which are at the centre of philosophy of science, philosophy of mind, philosophy of language, and ethics). |
| Supra-disciplinary approach | This observes law in interaction with technology and governance from relations between the peripheral disciplines of philosophy through the centre of philosophy and ethics to the roots of philosophy.                                                           |

Source: Authors' own elaboration.

An interdisciplinary approach is characteristic for AI at the first step of development. We can observe this at present. Nowadays, we can observe how the peripheral disciplines of philosophy (mainly the philosophy of society and education) influence the philosophy of law (embracing various dogmatic disciplines, such as criminal law, administrative law, civil law, and their procedures).

The transdisciplinary approach should be treated seriously when new technology attains a level of AGI. Ray Kurzweil anticipates that moment is close and that there will be a fusion with artificial intelligence by the year 2029. At that time, the IQ of machines will be equal to general human intelligence.

The supra-disciplinary approach will be very important when AS appears. Nick Bostrom believes that this will happen before the end of this century.<sup>9</sup>

### 3.2. Praxis increasing with equitable rights

Searching for the philosophical<sup>10</sup> and sociological<sup>11</sup> foundations of contemporary law (paying particular attention to *lex digitalis* and digisprudence), one can observe the symbiosis of economic and social norms.<sup>12</sup> Our inquiry into the nature of technological life casts the economy as a part of a harmonious order which is the system of modern

<sup>9</sup> N. Bostrom, *Superintelligence: Path, Dangers, Strategies*, Oxford 2014 (Polish edition: *Superinteligencja. Scenariusze, strategie, zagrożenia*, trans. D. Konowrocka-Sawa, Gliwice 2016), p. 38.

<sup>10</sup> "Imago Dei" as the foundation of sacral law is not taken into consideration in this article since it would require deeper analysis. See: K.J. Lisica, "Sztuczna inteligencja jako wyzwanie dla 'Imago Dei' w człowieku" [Artificial Intelligence as the Challenge for 'Imago Dei' in Human Being] [in:] *Współczesny atak na człowieka jako "Imago Dei"*, eds. M. Marczewski, R. Gawrych, P. Szydlewski, Gdańsk 2024, pp. 459–476.

<sup>11</sup> Psychological sociology is linked with the process of education. See: R. Gawrych, *Czynniki motywujące uczniów do uczenia się* [Motivation of Pupils in Education], Gdańsk–Białystok 2022, *passim*.

<sup>12</sup> A. Brodecka, "Symbioza nauk ekonomicznych i prawnych" [Symbiosis of Economic and Legal Sciences] [in:] *Przedwiośnie ery sztucznej inteligencji: technologia – zarządzanie – prawo*, vol. 2: *Czy algorytmy połączą Biblię z komputerem?*, eds. E. Wittbrodt, Z. Brodecki, M. Dargas-Draganik, Gdańsk 2024, pp. 34–43.

society. With the right to explore everyday life, individuals acting to achieve their own profit are simultaneously motivated to produce the greatest possible social welfare. The *GrowMeApp* for lawyers stretches far beyond the relationship between the classical *homo economicus* and the trader who licenses or sells the product.

The social theory of Pierre Bourdieu is relevant here. His books cross the frontiers of law and practice. The reflexive social behavioural sciences, in his view, are constructed with three elements: field (*locus*, which indicates the position of the individual in social space), capital (economic, cultural and social position in social space), and *habitus* (signifying practical logic and practical sense). In family life, one can still observe the traditional domination of masculine power. The chorus of men recalls the orchestra aboard the *Titanic*. It is, however, to be heard in many places of the world. In the gloomy scheme of *habitus*, male and female constitute themselves around symbolic binary codes.

### 3.3. A spectrum of technological normativity

Product designers (Google, Microsoft, or any other of the Horsemen of the Apocalypse) create technological normativity, subject to the constraints of the design environment for the end-user of any particular application. The first step of any algorithmic code is written according to an integrated development environment (IDE), which compiles it into a legal frame executable by a machine. This fundamental function has over time been augmented by further features of the software life cycle process. The end-user is the addressee of the rule of law as administrated and applied in practice. The concept of Legal Protection by Design (LPEbD) is very closely aligned with the spirit of digisprudence. Smart technologies must serve the goals of legal purposiveness.<sup>13</sup>

The composition of humanitarianism, effectiveness, and justice analyzed in the context of institutional, essential, and procedural laws is still perceived as a black box in the sphere of legisprudence. It is even more complicated in the sphere of digisprudence in that private profit-seeking enterprises are not sufficiently monitored by the authorities. In a digital space, this seems to be *terra incognita*.

## 4. Conclusions: Towards the algorithmic community

The *GrowMeApp* supports lawyers involved in family legal cases, representing the modern concept of *praxis*. It reflects not a contract or service, but a product in the form of a legal project. It is apparent from our article that:

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<sup>13</sup> Z. Brodecki, *Świątynia w sieci algorytmów. Kod idei* [The Temple of Algorithmic Network. Code of Ideas], Warszawa 2024, pp. 30, 48, 72. The code is presented in a form: universal net, *ius* net, and *ius* (bellum) net. One can see here the implication in the concept of *ius* not only in *lex*. Compare with T.T. Konciewicz, *Prawo z ludzką twarzą* [Law with Human Face], Warszawa 2015, pp. 89–90.

- *GrowMeApp* creates a near-infinite number of conditions that enable and constrain behaviour through technological normativity;
- digisprudence is an alternative version of law in action or the rule of recognition (a heterogeneous sub-field of *lex digitalis* depending on the market), which must be observed mainly in terms of the philosophy of science, the philosophy of mind, the philosophy of language, and ethics;
- the process of technological transformation from AI through AGI to AS requires a transition from the philosophical foundations of equitable rights to sociological reflections based on a holistic view of those rights;
- the 6R principle observed in the context of legisprudence and digisprudence must be analyzed through the autonomy of law in books or through the primary principle which is based on the harmony of praxeological value (effectiveness) and two ethical values (humanitarianism and justice);
- *GrowMeApp* (as a kind of law in action or the rule of recognition) represents modern *praxis*, in which digisprudence does not exist without the interaction of *lex digitalis* with technology and governance and with market and culture.

Digisprudence is then, as a matter of fact, without frontiers. Let us hope that control of the algorithmic community by the authorities will be reinforced by self-control exercised by the users of the application.

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## Summary

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### Digisprudence without Frontiers

The authors discuss *GrowMeApp* (a pro-family app) in the light of philosophy, reflective sociolo- gy, and social psychology, based on the assumption that digisprudence is an alternative version of law in action. The authors argue that law created by large international corporations requires interdisciplinary analysis. Soon, it will depend on transdisciplinary analysis among disciplines located on the fringes of philosophy and above them (involving philosophy of science, philoso- phy of mind, philosophy of language, and ethics).

**Keywords:** digisprudence, *GrowMeApp*, interdisciplinary analysis, law in action.

## Streszczenie

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### Digisprudencja bez granic

Autorzy podejmują próbę przedstawienia *GrowMeApp* (co-parentingowej aplikacji) w świetle filozofii, socjologii refleksyjnej oraz psychologii społecznej, opierając się na założeniu, że digis- prudencja jest alternatywną wersją „prawa w działaniu” wobec tradycyjnej jurysprudencji. Ar- gumentują, że prawo tworzone przez wielkie międzynarodowe korporacje wymaga analizy interdyscyplinarnej. W niedalekiej przyszłości konieczna będzie bowiem analiza transdyscypli- narna – prowadzona „pomiędzy” dyscyplinami usytuowanymi na obrzeżach filozofii oraz „ponad nimi”, odwołująca się do filozofii nauki, filozofii umysłu, filozofii języka i etyki.

**Słowa kluczowe:** digisprudencja, *GrowMeApp*, analiza interdyscyplinarna, „prawo w działaniu”.