Digital Assets and Their Assessment in Private Law with Special Regard on Inheritance Law Provisions*

ÁGNES JUHÁSZ**

ABSTRACT. Digitalisation is one of the greatest achievements of the 21st century, which is impacting all areas of law. Private law is no exception, and as the "law of everyday life", it exerts the greatest impact on our lives. For a long time, it seemed that there would be areas of private law that would be less affected or almost unaffected by the digitalisation process. Over time, however, it has become clear that in practice there is not any field of private law that will remain untouched by the impact of rapid technological developments.

In our study, we will first present the efforts to define digital assets and then examine how digital assets could be integrated into the property law system. Following the discussion of the property law aspects of digital assets, we will examine the inheritability of digital assets.

^{*} Fecha de recepción: 29 de mayo de 2024. Fecha de aceptación: 28 de marzo de 2025.

Para citar el artículo: Juhász, Á., "Digital Assets and Their Assessment in Private Law with Special Regard on Inheritance Law Provisions", *Revista de Derecho Privado*, Universidad Externado de Colombia, n.º 49, julio-diciembre 2025, 113-147. DOI: https://doi.org/10.18601/01234366.49.04.

^{***} University of Miskolc, Miskolc, Hungary; Associate Professor at the Faculty of Law. PhD in Law (2011), [University of Miskolc, Deák Ferenc Doctoral School in Law and Political Sciences, Miskolc] Contact: agnes.juhasz@uni-miskolc.hu Orcid: https://orcid.org/0000-0002-6029-6988.

[114] ÁGNES JUHÁSZ

KEYWORDS: Digital assets, digital property law, digital inheritance, digital legacy, social media account, cloud, *post-mortem* access.

El patrimonio digital y su valoración en el derecho privado con especial atención a las disposiciones del derecho de sucesiones

RESUMEN. La digitalización es uno de los mayores logros del siglo XXI y está repercutiendo en todos los ámbitos del derecho. El derecho privado no es una excepción y, como "derecho de la vida cotidiana", es el que ejerce un mayor impacto en nuestras vidas. Durante mucho tiempo parecía que habría áreas del derecho privado que se verían menos afectadas o casi no se verían afectadas por el proceso de digitalización. Con el tiempo, sin embargo, ha quedado claro que, en la práctica, no hay ningún ámbito del derecho privado que permanezca indemne al impacto de la rápida evolución tecnológica.

En el presente estudio muestra, en primer lugar, los esfuerzos realizados para definir los activos digitales y, a continuación, examina cómo podrían integrarse los activos digitales en el sistema de derecho de propiedad. Tras el análisis de los aspectos de los activos digitales relacionados con el derecho de propiedad, se examina la heredabilidad de los activos digitales.

PALABRAS CLAVE: activos digitales, derecho de propiedad digital, herencia digital, legado digital, cuenta en redes sociales, nube, acceso *post mortem*.

SUMMARY: Introduction. I. Conceptualising and grouping of digital assets. II. Applicability of property law provisions to digital assets. III. Digitalisation and inheritance law. Conclusions. References.

Introduction

Digitalisation has been identified as one of the most significant achievements of the 21st century, exerting a profound influence on all domains of legal practice. Private law as the 'law of everyday life' is particularly susceptible to these developments, given its pervasive impact on individuals' lives. Historically, there had been a perception that certain areas of private law might be less susceptible to the influence of digitalisation. However, it has become evident that in practice, no field of private law will remain untouched by the rapid advancements in technology.

In this study, we will first present the efforts to define digital assets and then examine their integration into the property law system. Following the discussion of the property law aspects of digital assets, we will examine the inheritability of digital assets.

There is no question that the primary task regarding digital assets is to address the questions related to property rights, a subject of significant importance to contemporary private law scholars. The inheritance of digital assets may seem futuristic now, but they are not. A person is born, lives, and dies, and after death, his or her property passes to the heirs. In the contemporary world, individuals no longer exist solely within the physical realm; they also possess a virtual presence, evidenced by activities such as creating social media accounts, engaging in electronic correspondence, participating in online games, investing in cryptocurrency, and purchasing non-fungible token (NFT) artwork. The question therefore rightly arises how these physically not existing, i.e. intangible assets that have value and are subject to day-to-day online transactions can be incorporated into the civil law system. All these assets form part of a new phenomenon, digital inheritance which is currently an unregulated field of civil law, even if there are initiatives at national levels to create a regulatory framework for the problems raised by the inheritability of digital assets.

The acquisition of digital assets has emerged as a significant aspect of modern life, transcending the demographic boundaries of the younger generation. This trend is evidenced by the increasing prevalence of online accounts, including social media and banking services, which are being adopted by individuals of all ages to enhance their quality of life. As time progresses, it is anticipated that the quantity of digital assets, data, and crypto investments within the probate process will increase, thereby conferring upon heirs a legal and property interest in their acquisition. These interests underscore the necessity for legislators to acknowledge and regulate digital assets, thereby ensuring the seamless transfer of assets and the protection of interests involved. The European Law Institute (hereinafter ELI) has recognised the gravity of the issue by commencing a new project in October 2023 entitled 'Succession of Digital Assets, Data, and other Digital Remains'. This project aims to establish principles and model rules on the succession of digital assets that could serve as a foundation for future European-level legislation.

I. Conceptualising and grouping digital assets

A. A general concept for digital assets?

Before examining how the provisions of rights *in rem* can be applied to digital assets, the term "digital asset" should be explained. This expression first entered the public consciousness in parallel with the strengthening of the digitalisation process. However, it is important to mention that using the term "digital asset" is not exclusive. Within the extant literature, a diversity of terminology can be observed, according to which expressions like "digital things", "virtual assets", or "crypto assets" are also used. While the first two expressions can be deemed as less professional wording for describing the phenomenon, digital assets, and crypto assets are overlapping categories to a certain extent. As *Felix Krysa* emphasises,

crypto assets are necessarily based on the use of a blockchain¹ while digital assets can exist independently from such a distributed ledger system. Digital assets, therefore, represent a broader category encompassing crypto assets as a special type and other non-cryptographically authenticated digital assets. Although the term 'digital asset' is consistently used in this study, the acceptance of other expressions is also justified, particularly regarding the latest development of EU legislation.

From the standpoint of private law jurisprudence, digital assets can be regarded as a novel category of assets which is a well-established concept with the realm of private law. Asset is a *complex concept* encompassing several elements. It can be defined as *the set of a person's rights and obligations concerning things and vis-à-vis other persons*². The term covers all assets including things, rights, and contractual positions that are marketable and valuable³. By analogy, *digital assets*, in the broadest sense, *are a separate part of one person's wealth, comprising assets that exist only in digital form*. As Christiane Wendehorst defines, digital assets are items consisting of, or represented by, digital data, which are subject to a person's control⁴. The totality of digital assets may be referred to as a *'digital estate'*⁵.

Although the above-mentioned notion of digital estate and digital asset are deduced from the jurisprudential definition of the asset, it seems to be too wide, and therefore, they are unable to react to the different digital phenomena of which assessment causes a problem in the practice. Consequently, it is worth reviewing those definition attempts that have emerged at the international level, particularly in the work of organisations engaged in the harmonisation of private law rules. Furthermore, it is essential to consider to the recent legislative developments of the European Union, as the newly adopted acts contain explanatory provisions on digital assets.

Regarding the notion of digital assets, it should be stated as a preliminary point that there is no uniform, generally recognised, or globally accepted legal

¹ Krysa, F., "Taxonomy and Characterisation of Crypto Assets in Private International Law" [online], in Bonomi, A.; Lehmann, M., and Lalani, S. (eds.), *Blockchain and Private International Law*, Brill–Nijhoff, 2023, 160, available at: https://brill.com/edcollchap-oa/book/9789004514850/BP000016.xml [accessed: 4 July 2024], https://doi.org/10.1163/9789004514850_009.

² Lenkovics, B., *Dologi jog*, Budapest, Eötvös József Könyvkiadó, 2001, 50.

³ Menyhárd, A., *Dologi jog*, Budapest, Osiris Kiadó, 2007, 171.

Wendehorst, C., "Proprietary Rights in Digital Assets and the Conflict of Laws" [online], en Bonomi, A.; Lehmann, M., and Lalani, S. (eds.), Blockchain and Private International Law, Brill-Nijhoff, 2023, 102, available at: https://brill.com/edcollchap-oa/book/9789004514850/BP000014.xml [accessed: 4 July 2024], https://doi.org/10.1163/9789004514850_007.

⁵ Szwajdler, P., "Digital Assets and Inheritance Law: How To Create Fundamental Principles of Digital Succession System" [online], *International Journal of Law and Information Techno*logy, Oxford Academic, vol. 31, No. 2, 2023, 148, available at: https://academic.oup.com/ijlit/ article/31/2/144/7248529 [accessed: 28 June 2024], https://doi.org/10.1093/ijlit/eaad014.

concept for digital assets. This is also emphasised by the *United Nations Commission on International Trade Law*⁶.

Indeed, the wording and the content of the term always depend on the creator of the definition and are always adjusted to the scope and the legal aims to be reached by the given regulation. Consequently, most scientific works treat the terms "digital assets" and "crypto assets" interchangeably, though the latter expression is something narrower, as it was explained above. The majority of international organisations and entities, with few exceptions, have resisted defining digital assets. Nevertheless, recently several rules including legal acts and model rules were adopted that contain the definition of 'digital asset' or 'crypto-asset'.

In 2022, the *European Law Institute* (hereinafter referred to as ELI) published its principles on the use of digital assets as security (hereinafter referred to as ELI Principles)⁷. Principle 1 defines the scope of the ELI Principles and states that the Principles apply to the use of *digital assets as security by private parties*, whether natural or legal persons, by the terms of a security agreement between a security provider and secured creditor, and are intended for use across legal systems, but primarily in the EU.

The concept of digital assets in the ELI Principles is based on the core attributes of assets. According to the ELI Principles, "digital asset" means any record or representation of value which fulfils the criteria determined by the Principles. Firstly, the asset should exclusively be stored, displayed, and administered electronically, on or through a virtual platform or database, including where it is a record or representation of a real-world, tradeable asset, and whether the digital asset itself is held or not directly or through an account with an intermediary. As can be seen, this criterion reflects the intangible nature of digital assets. Secondly, the asset should be capable of being subject to a right of control, enjoyment, or use, regardless of whether such rights are legally characterised as being of a proprietary, obligational, or other nature. Thirdly, the asset should be capable of being transferred from one party to another, including by way of voluntary disposition (transferability).

The main feature of the proposed definition of the digital asset is *technological neutrality*, since, for the concept, the design and operational features of the relevant platform or database are irrelevant, just like the method of protection (e.g., use of cryptography) and the claim represented by the given digital asset. Therefore, digital assets may be stored either on a blockchain, and be supported by a smart contract, or, on a non-blockchain database, including a publicly accessible cloud service or a restricted access "data repository".

⁶ Taxonomy of Legal Issues Related to the Digital Economy, United Nations Commission on International Trade Law, Vienna, 2023, 35.

⁷ https://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Principles_on_the_Use_of_Digital_Assets_as_Security.pdf [accessed: 12 September 2023].

In May 2023, a definition of "digital assets" was also adopted within the framework of the International Institute for the Unification of Private Law (hereinafter referred to as UNIDROIT). Principle 2 (2) of the *UNIDROIT Principles on Digital Assets and Private Law* (hereinafter referred to as Principles DAPL)⁸ defines a "digital asset" as an electronic record, i.e. information stored in an electronic medium and capable of being retrieved, that is capable of being subject to control. According to the commentary added to Principle 2(2), a cryptocurrency on a public blockchain (e.g., bitcoin) or a central bank digital currency (CBDC) shall be deemed a digital asset, while a social media page with a password does not fall under the category of digital asset⁹.

The third legal act that should be mentioned considering the definition of digital assets, is the *Regulation (EU) 2023/1114* (hereinafter referred to as *MiCAR)*¹⁰, which was adopted by the European legislator in May 2023. By the adoption of this regulation, the European legislator intended to create a harmonised framework for markets in crypto assets. As can be seen, the MiCAR uses the term "crypto asset" instead of "digital asset" and, among other important provisions, it gives the definition and the types of these assets.

As defined in Micar, a crypto asset means a digital representation of a value or of a right that can be transferred and stored electronically using distributed ledger technology (DLT) or similar technology¹¹. The regulation distinguishes three types of crypto assets. "Asset-referenced token" (hereinafter referred to as ART) means a type of crypto-asset that is not an electronic money token and that purports to maintain a stable value by referencing another value or right or a combination thereof, including one or more official currencies¹². Due to the stability of their value, ARTs serve as a means of payment.

The main purpose of an "electronic money token" (or "e-money token", hereinafter referred to as EMT) is to be used as a means of exchange, but it is also intended to maintain a stable value by referencing the value of one official currency¹³. EMTs are, therefore, primarily means of payment, but their value is pegged to a single fiat currency for reasons of stability. In addition to the differences, an EMT has several similarities in its functioning with the use of electronic money, insofar as the former also acts as an electronic substitute for coins and banknotes

⁸ Available at: https://www.unidroit.org/wp-content/uploads/2023/09/Principles-on-Digital-Assets-and-Private-Law.pdf [accessed: 22 June 2024].

⁹ See the explanation in detail: Principles DAPL, 16-17.

¹⁰ Regulation (EU) 2023/1114, of the European Parliament and of the Council, of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No. 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937, OJ L 150, 9.6.2023, 40-205.

¹¹ MiCAR, Article 3(1), point 5.

¹² In the application of the Micar, official currency means an official currency of a country that is issued by a central bank or other monetary authority. Cf. Micar, Article 3(1), point 8.

¹³ MiCAR, Article 3(1), point 7.

and is used for payment¹⁴. Holders of electronic money may always require the electronic money institution to redeem their electronic money at par value for fiat currency which is legal tender. This possibility will also be available for EMTs after the entry into force of MiCAR, contrary to current practice.

As the third type of crypto-assets, MiCAR refers to *utility tokens*, which, contrary to the above two types of crypto assets, qualify as neither means of payment, nor medium of exchange, i.e., they do not serve financial purposes. These tokens intend to provide access to a good or a service supplied by its issuer¹⁵. Therefore, this type of crypto asset is essentially linked to the functioning of the digital platform and digital services.

Considering the scope of the application of MiCAR it should be mentioned that according to Recital 10, the provisions of the MiCAR do not apply to crypto assets that are unique and not fungible with other crypto assets, e.g., digital artworks, and collectibles. Moreover, crypto assets representing services or physical assets that are unique and non-fungible, such as product guarantees or real estate, also do not fall under the scope of MiCAR. At first sight, it seems that NFTs are not covered by the regulation. Nevertheless, Recital 11 of the MiCAR provides that its provisions shall be applied to crypto assets that appear to be unique and non-fungible, but whose *de facto* features or whose features that are linked to their *de facto* uses, would make them either fungible or not unique. Consequently, although these crypto assets are issued as non-fungible tokens, the volume of issuance, i.e. whether they are issued in a large series or collection, shall be considered an indicator of their fungibility.

In December 2023, the Regulation (EU) 2023/2854 of the European Parliament and of the Council of 13 December 2023 on harmonised rules on fair access to and use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 (hereinafter referred to as Data Act) was adopted. Paragraph (32) of Article 1 of the Data Act defines digital assets as elements in digital form, including applications, for which the customer has the right of use, independently from the contractual relationship with the data processing service it intends to switch

Electronic money is the monetary value represented by a claim on the issuer, stored electronically, including magnetic storage, issued upon receipt of funds for the execution of payment transactions as defined in point (5) of Article 4 of Directive 2007/64/EC and accepted by a natural or legal person other than the electronic money issuer. L. Directive 2009/110/EC, of the European Parliament and of the Council, of 16 September 2009 on the taking up, pursuit, and prudential supervision of the business of electronic money institutions amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC, OJ L 267, 10.10.2009, 7-17., Article 2, point (2). The current Hungarian Act on Credit Institutions (Act CCXXXVII of 2013 on Credit Institutions and Financial Enterprises, hereinafter referred to as ACE) regulates electronic money as a type of payment instrument and defines its concept under the Directive. Cf. ACE Article 6(1), 16.

¹⁵ MiCAR, Article 3(1), point 9.

from. This concept of digital asset was created regarding consumer interests and, as it can be seen, primarily relates to data.

As can be seen, the adopted legal documents use different definitions for digital assets. It can be explained by the fact that the EU legislator does not intend to create a general concept for digital assets, but strives to define the content of the term, at least in terms of what is meant in the application of the given legislation. The situation is partly similar to the ELI Principles since the organisation elaborated the definition of the digital asset along with the aim for which the digital asset is used (i.e. digital asset as security).

In contrast to the preceding definitions, the UNIDROIT sought to establish a universal concept of digital assets that can function appropriately in the context of private law in any field of private law. Although reaching this aim is quite difficult, the basic idea and the approach of the UNIDROIT on digital assets is extremely important, because, in the lack of a general definition or semi-definition of the digital asset, even more countries will create their own notion and adopt national regulations regarding the digital assets¹⁶.

Outside the EU, there are other regulatory models of digital assets which are worth mentioning.

In the USA, there is an absence of federal regulation that specifically addresses digital assets yet. Nevertheless, to provide for a system of regulation of digital assets, the Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC) introduced two bills in 2023 to establish a federal digital asset regulatory framework.

The Financial Innovation and Technology for the 21st Century Act (hereinafter referred to as FIT21)¹⁷ clarifies the regulatory responsibilities of the SEC and CFTC over digital asset products and transactions, and, at the same time, modifies the existing securities and commodity laws to facilitate the use of digital assets. FIT21 would amend Article 2(a) of the Securities Act of 1933 by supplementing it with several new definitions. Among them, digital assets, in general, are defined as any fungible digital representation of value that can be exclusively possessed and transferred, person to person, without necessary reliance on an intermediary, and are recorded on a cryptographically secured public distributed ledger. Moreover, FIT21 also determines those assets ("exclusions") that are not covered

At this time, several countries all over the world adopted model rules or regulations on certain aspects of using digital assets. See for example the Fiduciary Access to Digital Assets Act (2015) in the USA, the Uniform Access to Digital Assets by Fiduciaries Act (2016) in Canada, Law of 3 October 2019 on tokens and TT service providers (Gesetz vom 3. Oktober 2019 über Token und VT-Dienstleister) in Lichtenstein. In 2020, Serbia adopted a single act on digital assets (RS Official Gazette, No. 153/2020).

¹⁷ Available at: https://www.congress.gov/bill/118th-congress/house-bill/4763/text#toc-HD1E0A-B46EB1F451283A255C67A11340C [accessed: 13 June 2024]. The Bill was passed on 22 May 2024 in the US House of Representatives.

by the above concept¹⁸. Creating clear categories of digital assets is important since it determines if a digital asset falls under SEC or CFTC jurisdiction.

According to the other bill, the *Blockchain Regulatory Certainty Act*¹⁹ digital asset means any form of intangible personal property that can be exclusively possessed and transferred from person to person without the necessity of an intermediary.

Considering digital assets, the work of the Uniform Law Commission (ULC) shall also be highlighted. The *Revised Fiduciary Access to Digital Assets Act* (hereinafter referred to as *RUFADAA*) of 2015 defines digital assets as *an electronic record in which an individual has a right or interest*. Nevertheless, the term does not cover an underlying asset or liability unless the asset or liability is itself an electronic record²⁰. Though ULC is a non-legislative body, it prepares uniform or model acts that can be enacted later by the states. At this time, with the exception of Massachusetts and California²¹, all US states enacted the RUFADAA.

B. Grouping of digital assets

As previously stated, the absence of a universally adopted definition of digital assets is primarily attributable due to the great diversity, and, consequently, exhaustively non-listable nature of digital assets. That is why scholars dealing with this topic classify digital assets into different groups according to different, e.g., economic, technical, or functional factors²². Some authors divide digital assets into two groups, distinguishing between online accounts and files stored on various electronic devices or in the cloud²³. For other authors, the delimitation is based on the fact that the given digital asset falls under the scope of a contract for a digital service or a licence to use²⁴. A further division drafted by *Birnhack* and *Morse* is the distinction between incorporeal things (assets), data relating to

¹⁸ FIT21, Section 101.

¹⁹ Available at: https://www.congress.gov/bill/118th-congress/house-bill/1747/text. [accessed: 24 June 2024].

²⁰ RUFADAA, Section 2(10).

²¹ Bills were introduced in 2024 in both States.

²² See Krysa, F., "Taxonomy, and Characterisation of Crypto Assets in Private International Law", cit., 160-165.

²³ Park, Y. J.; Sang, Y.; Lee, H., and Jones-Jang, S. M., "The Ontology of Digital Asset After Death: Policy Complexities, Suggestions and Critique of Digital Platforms" [online], Digital Policy, Regulation and Governance, Emerald, vol. 22, No. 1, 2020, 1-14, available at: https://www.emerald.com/insight/content/doi/10.1108/DPRG-04-2019-0030/full/html], https://doi.org/10.1108/DPRG-04-2019-0030.

²⁴ Berlee, A., "Digital Inheritance in the Netherlands", *Journal of European Consumer and Market Law (EuCML)*, Wolters Kluwer, vol. 6, No. 6, 2017, 256-260.

property (rights), information, objects of intellectual property, and personal data²⁵. *Manicad III* and *Perez* grouped digital assets into the following five categories: (a) electronic documents, (b) social media, (c) financial assets, (d) business assets, and (e) mixed assets²⁶. *Beyer* and *Cahn* differed between (a) personal assets, (b) social media assets, (c) financial accounts, and (d) business accounts²⁷.

In his earlier work, *Paweł Szwajdler* drafts two kinds of grouping when he distinguishes between financially valuable and non-financially digital assets on the other hand, and between personal and non-personal digital assets, on the other hand. In his reading, *financially valuable digital assets* cover digital assets having financial value but are not limited to digital assets that have a purely financial nature. The category of financially valuable digital assets is broader, encompassing financial digital assets, such as coins and cryptocurrencies. *Non-financially valuable digital assets* mean digital assets having only emotional, or sentimental value or are worthless in financial terms. *Personal digital assets* are strictly linked to their owners and typically have no financial value (e.g., e-mail accounts, social media accounts, etc.). Nevertheless, these kinds of digital assets can reach a financial value regarding the person of the owner, for example in the case of celebrities. *Non-personal digital assets* are transferable; they are not linked to a person but have financial value and can thus serve as the subject of a transaction.

The taxonomy of digital assets created by *Dubravka Klasiček* is a kind of synthesis of the groupings described above. However, Klasiček uses additional criteria and differs between digital assets by the inheritance law problems raised by the given digital assets, and the same or very similar solution which can be given for them. The drafted categories are as follows: (1) digital assets stored on an electronic device or a similar medium, created by the owner of the device, (2) digital accounts and their content, stored on online platforms' servers, (3) digital assets that have been purchased from online platforms, and (4) cryptocurrencies²⁸.

²⁵ Birnhack, M., and Morse, T., "Digital Remains: Property or Privacy?" [online], *International Journal of Law and Information Technology*, Oxford Academic, vol. 30, No. 3, 2022, 280-301, available at: https://academic.oup.com/ijlit/article-abstract/30/3/280/6840448?redirectedFrom =fulltext [accessed: 6 July 2024], https://doi.org/10.1093/ijlit/eaac019.

²⁶ Manicad III, M. B., and Perez, A. D., "Digital Succession: Addressing the Disposition of Juan's Online Digital Assets Upon His Death", *Philippine Law Journal*, Diliman, Quezon City, Philippines, University of the Philippines College of Law, vol. 91, No. 2, 2018, 388-415.

²⁷ Beyer, G. W., and Cahn, N., "Digital Planning: The Future of Elder Law" [online], NAELA Journal, National Academy of Elder Law Attorneys, vol. 9, No. 1, 2013, 35-155, 137-138, available at: https://scholarship.law.gwu.edu/cgi/viewcontent.cgi?article=2255&context=faculty_publications [accessed: 27 June 2024].

²⁸ Klasiček, D., "Inheritance Law in the Twenty-First Century: New Circumstances and Challenges" [online], en Gstrein, O. J.; Fröhlich, M.; van den Berg, C., and Giegerich, T. (eds.), Modernising European Legal Education (MELE) Innovative Strategies to Address Urgent Cross-Cutting Challenges, Springer, 2023, 239, available at: https://link.springer.com/chapter/10.1007/978-3-031-40801-4_15 [accessed: 3 July 2024], https://doi.org/10.1007/978-3-031-40801-4_15.

As can be seen, the criteria for the classification of digital assets may vary, and the developed categories can overlap. A single, strict typology of digital assets, therefore, is not possible. Nevertheless, the manner in which digital assets are grouped has a great significance from the point of view of inheritance law as well, since digital assets, due to their diversity, raise different inheritance law issues, and, accordingly, possible solutions can be developed along different logical lines.

Before discussing the inheritance law concerns of digital assets, it shall be examined, how they are assessed by property law. The qualification of digital assets is a kind of preliminary question: the application of other provisions of private law, e.g., inheritance law, family law, or contract law, depends on whether digital assets can be covered by the concept of property used in the civil law, or the application of property rules can be extended to them, considering the appearance, "behaviour", and characteristics of digital assets in everyday life, and in business transactions. If a digital asset is found to be a subject of ownership right, it will be capable of forming part of a deceased person's estate.

II. Applicability of property law provisions to digital assets

The legal nature of the digital assets constituting digital property, and their assessment from the point of view of property law, is a complex issue. Therefore, it is unsurprising that this problem is highly debated in private law jurisprudence worldwide²⁹.

See for example Fairfield, J., "Property As the Law of Virtual Things" [online], Frontiers in Research Metrics & Analytics, vol. 7, 2022, 1-14, available at: https://www.frontiersin.org/ journals/research-metrics-and-analytics/articles/10.3389/frma.2022.981964/full [accessed: 3 February 2024], https://doi.org/10.3389/frma.2022.981964]; Michels, J. D., and Millard, C., "The New Things: Property Rights in Digital Files?", The Cambridge Law Journal, Cambridge University Press, vol. 81, No. 2, 2022, 323-355, https://doi.org/10.1017/S0008197322000228; Cağlayan, P. A., "The Applicability of Property Law Rules for Crypto Assets: Considerations from Civil Law and Common Law Perspectives" [online], Law, Innovation and Technology, Taylor & Francis, vol. 15, No. 1, 2023, 85-221, available at: https://www.tandfonline.com/doi/ full/10.1080/17579961.2023.2184140 [accessed: 6 July 2024], https://doi.org/10.1080/17579961 .2023.2184140; Juhász, Á., "Time for Rethinking? Non-Fungible Tokens and Ownership Rights from the Hungarian Point of View" [online], Multidiszciplináris Tudományok, University of Miskolc, vol. 13, No. 3, 2023, 36-46, available at: https://ojs.uni-miskolc.hu/index.php/multi/ article/view/2374 [accessed: 8 July 2024], https://doi.org/10.35925/j.multi.2023.3.4; Juhász, Á., "The Civil Law Concept of things in the Digital Era – a Hungarian Perspective", Annales Universitatis Apulensis / Series Jurisprudentia, Universitatea "1 Decembrie 1918" din Alba Iulia, Romania, No. 27, 2023, 132-148; Predrag, M., "Digital Assets - A Legal Approach to the Regulation of the New Property Institute" [online], Pravo teorija i praksa, Pravni fakultet za privredu i pravosuđe u Novom Sadu, vol. 40, No. 1, 2023, 17-31, available at: https://www. ceeol.com/search/article-detail?id=1112623 [accessed: 26 June 2024], https://doi.org/10.5937/ ptp2300017M; Ho, K. J. M., "Towards an Idea of Digital Asset Ownership", Cambridge Law Review, University of Cambridge, vol. 8, No. 1, 2023, 41-71; Alessandro, M., "Non-Fungible Tokens: An Argument of the Ownership of Digital Property" [online], International Journal of Law in Changing World, Special Issue: "NFTs and the Legal Landscape", 2023, 171-201, available at: https://ijlcw.emnuvens.com.br/revista/article/view/55 [accessed: 2 July 2024], https://

The private law approach to digital assets is a basic question. In the long run, there is no way around whether digital assets can be deemed as "things", as a subject of ownership right. In this case, the ownership of a digital asset could be transferred similarly to any other tangible asset. If digital assets cannot be covered by the concept of thing, property law rules could be applied by extension. Beyond the property law solutions, there is a third alternative, namely, assessing digital assets as a claim. In this latter case, a claim can be the subject of a transfer of a claim.

Whether digital assets can be subject to ownership rights can be answered differently from one legal system to another, as the theoretical-dogmatic approach to property law is not the same in civil law systems and common law jurisdictions. Furthermore, it should be noted that there are also differences within the civil law system itself. For instance, in countries such as Germany, Hungary, Japan, the formulation of the concept of a thing is strict since it is based on the tangibility of a thing³⁰. Such an approach excludes deeming digital (and therefore intangible) assets as a thing³¹. There are other countries, where national rules treat the concept of things more flexibly (e.g., Austria, France, Italy, Romania, etc.³²)

doi.org/10.54934/ijlcw.v2i3.55; Maydanyk, R.; Maydanyk, N., and Popova, N., "Reconsidering the Concept of a Thing in Terms of the Digital Environment: Law Towards an Understanding of a Digital Thing" [online], *Open Journal for Legal Studies*, Center for Open Access in Science (COAS), Belgrado, vol. 5, No. 2, 2022, 31-56, available at: https://centerprode.com/ojls/ojls0502/coas.ojls.0502.01031m.html [accessed: 2 July 2024], https://doi.org/10.32591/coas.ojls.0502.01031m; Maydanyk, R., "General Provisions of Digital Property Law and How to Categorize Digital Assets", *Open Journal for Legal Studies*, Center for Open Access in Science (COAS), Belgrado, vol. 6, No. 2, 2023, 49-64, available at: https://centerprode.com/ojls/ojls0602/ojls-0602.html [accessed: 2 July 2024], https://doi.org/10.32591/coas.ojls.0602.02049m; Chan, T., "The Nature of Property in Cryptoassets" [online], *Legal Studies*, University of Cambridge, vol. 43, No. 3, 2023, 480-498, available at: https://www.cambridge.org/core/journals/legal-studies/article/nature-of-property-in-cryptoassets/6B882C05BD3D9A7A924FBE41C359E92E [accessed: 2 July 2024], https://doi.org/10.1017/lst.2022.53.

³⁰ Article 90 of the German Civil Code declares that "[o]nly corporeal objects are things as defined by law." Article 5:14(1) of Act V of 2013 on the Hungarian Civil Code defines things as objects of ownership: "[p]hysical objects that can be taken into possession can be objects of ownership." According to Article 85 of the Japanese Civil Code (Act No. 89 of 1896), "[t]he term 'things' [...] means tangible objects", as it is used in the code.

³¹ See in detail: Juhász, Á., "Time for Rethinking? Non-Fungible Tokens and Ownership Rights from the Hungarian Point of View" [online], *Multidiszciplináris Tudományok*, University of Miskolc, vol. 13, No. 3, 2023, 36-46, available at: https://ojs.uni-miskolc.hu/index.php/multi/article/view/2374 [accessed: 8 July 2024], https://doi.org/10.35925/j.multi.2023.3.4; Juhász, Á., "The Civil Law Concept of things in the Digital Era – a Hungarian Perspective", *Annales Universitatis Apulensis / Series Jurisprudentia*, Universitatea "1 Decembrie 1918" din Alba Iulia, Romania, No. 27, 2023, 132-148.

³² Article 265 of the Austrian General Civil Code declares that "[e]verything that is distinct from the person and serves the use of people is called a thing in the legal sense." Article 813 of the Italian Civil Code (dating back to 1942) states that "unless the law states otherwise, the provisions concerning immovable property also apply to real rights that have immovable property as their object and to the related actions; the provisions concerning movable property apply to all other rights." In accordance with Article 810, the term "goods" is defined as any tangible assets

and theoretically may be suitable for allowing the adaptation of digital property to civil law. Nevertheless, the practical adaptation of digital assets raises further questions that will not be addressed in this study.

The approach of common law jurisdictions to property law is very different compared to the traditional civil law systems. According to this approach, property can be divided into real property (interests in land, immovable property) and personal property (interests in other things). Within this latter, English and Welsh law traditionally recognises two distinct subcategories: rights relating to things ("choses") in possession and rights relating to things in action. The previous term covers any object which the law considers amenable to physical possession, i.e. this category covers tangible things, regardless of whether anyone lays claim to them. These things are capable of transfer by delivery. The latter category, things in action, means things that can only be claimed or enforced through legal action³³. The above-mentioned distinction was also formulated and confirmed in case law³⁴.

Nevertheless, the single notion of property does not exist in common law. Instead, there are characteristics ("the *Ainsworth criteria*") that shall be examined when considering if a particular thing is a property or not³⁵.

The aforementioned distinction between things in possession and things in actions has long held sway in English law³⁶. However, there has been a growing demand in the last decade for a theoretical basis for a new type of property that does not fall into either of the two categories. Recent judgments in the English judicial practice also argued that two traditional types of personal property should be maintained in modern property law. Courts of England and Wales have recently recognised certain types of digital assets as distinct things which are capable of being objects of personal property rights³⁷, or, at least, proceed to softly create

that can be recognised as the subject of proprietary interests. According to Article 535 of the Romanian Civil Code (Law No. 287/2009 on the Civil Code), assets are defined as "[t]hings, tangible or intangible, that constitute the subject-matter of a property right." Concerning the Eastern Slavic countries see Maydanyk, R.; Maydanyk N., and Popova, N., "Reconsidering the Concept of a Thing in Terms of the Digital Environment: Law Towards an Understanding of a Digital Thing", cit., 32-33.

³³ Michels, J. D. et al., "The New Things: Property Rights in Digital Files?", cit., 323-355.

³⁴ As it was stated in Colonial Bank v Whinney, "[a]ll personal things are either in possession or in action. The law knows no tertium quid between the two." See Colonial Bank v Whinney, 1885, 30 Ch D 261, 38. In 1931, another judgment confirmed that "there is no middle term". See Allgemeine Versicherungs-Gesellschaft, Helvetia v Administrator of German Property, 1931, 1 KB 672.

³⁵ As Lord Wilberforce stated in National Provincial Bank v Ainsworth, "[b]efore a right or an interest can be admitted into the category of property, or of a right affecting property, it must be definable, identifiable by third parties, capable in its nature of assumption by third parties, and have some degree of permanence or stability." National Provincial Bank v Ainsworth, 1965, AC 1175, 1248.

³⁶ Cf. Your Response Ltd v Datateam Business Media Ltd, 2014, EWCA Civ 281 at [13] and [26].

³⁷ Fetch.ai v Persons Unknown, 2021, EWHC 2254 (Comm), 2021, 7 WLUK 601; Zi Wang v Graham Darby, 2021, EWHC 3054 (Comm).

a third common law-based category of things to which personal property rights can relate³⁸. The case law in other common law jurisdictions (including New Zealand, Australia, British Columbia, Singapore, Hong Kong, and the USA) shows similarities in assessing certain types of digital assets³⁹, though in a recent judgment of the High Court of the Republic of Singapore, the broad concept of things in action was applied and cryptocurrencies were recognised as things covered by this category of private property⁴⁰.

In March 2020, the Ministry of Justice of the United Kingdom requested the Law Commission to review the legal framework on crypto-tokens and other digital assets and to consider whether the law of England and Wales required reform to ensure that it can accommodate such assets. In response to this request, the Law Commission initiated a consultation on the subject and published its consultation paper on digital assets on 28 July 2023^[41]. In its paper, the Law Commission envisaged a "third category of property" for those phenomena that cannot be deemed either as things in possession, nor things in action. It is evident that this third category is of an extremely broad nature insofar as it covers not only the unlistable forms of digital assets, but encompasses several already existing categories like export quotas, milk quotas, waste management licences, and different types of carbon emissions allowances which were consistently concluded by courts as things that are capable of being objects of personal property rights⁴². To avoid further uncertainties and doubts, the Law Commission recommended the statutory confirmation of the existence of this category⁴³.

Vorotyntseva v MONEY-4 Ltd (t/a nebeus.com) & Ors [2018] EWHC 2596 (Ch); Ion Science v Persons Unknown 21 December 2020 (unreported); AA v Persons Unknown & Ors, Re Bitcoin, 2019, EWHC 3556 (Comm); Director of Public Prosecutions v Briedis & Anor, 2021, EWHC 3155 (Admin); Tulip Trading v Van Der Laan, 2023, EWCA Civ 83, 2023, 4 WLR 16 at [24]-[25].

³⁹ Copytrack Pte Ltd v Wall, 2018, BCSC 1709; Ruscoe v Cryptopia Ltd (in Liquidation), 2020, NZHC 728; Quoine Pte Ltd v B2C2 Ltd, 2020, SGCA(I) 02; CLM v. CLN and others, 2022, SGHC 46; Janesh s/o Rajkumar v Unknown Person ("CHEFPIERRE"), 2022, SGHC 264; Re Gatecoin Ltd (in liquidation), 2023, HKCFI 914; ASIC v Web3 Ventures Pty Ltd, 2024, FCA 64.

⁴⁰ ByBit Fintech Ltd v Ho Kai Xin, 2023, SGHC 199 at [35]. The content of the judgment and the related questions are discussed in detail by *Chester Cheong* and *Kunhe Lin*. See: Cheong, B. Ch., and Lin, K., "Crypto Assets Are Property, Specifically, Choses in Action, that Are Capable of Being Held on Trust" [online], *SAL Practitioner*, Singapore Academy of Law, 2024, 2, available at: https://journalsonline.academypublishing.org.sg/Journals/SAL-Practitioner/Fintech [accessed: 4 June 2024], https://doi.org/10.2139/ssrn.4720009.

⁴¹ Digital Assets, Law Commission Consultation Paper [online], 2022, No. 256, available at: https://s3-eu-west2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2022/07/ Digital-Assets-ConsultationPaper-Law-Commission-1.pdf [accessed: 28 May 2024].

⁴² A-G of Hong Kong v Chan Nai-Keung, 1987, 1 WLR 1339, 1987, 3 BCC 403; Swift v Dairywise (No. 1), 2000, 1 WLR 1177, 2000, BCC 642; Re Celtic Extraction Ltd, 2001, Ch 475, 2000, 2 WLR 991; Armstrong DLW GmbH v Winnington Networks Ltd, 2012, EWHC 10 (Ch), 2013, Ch 156.; Your Response Ltd v Datastream Media Ltd, 2014, EWCA Civ 281, 2015 QB 41.

⁴³ Some scholars sharply criticised the recommendation of the Law Commission. Kelvin Low defines, "[r]ather than focus on the tertium quid question in respect of crypto assets, the Law Commission would do English law a huge service if it undertook a project to rationalise the

On 22 February 2024, as the next step of the development process of the legislative background for digital assets, the Law Commission published a consultation on the draft clauses of the future law which would implement the above-mentioned recommendation. The draft bill provides as follows: "A thing (including a thing that is digital in nature) is capable of being an object of personal property rights even though it is neither — (a) a thing in possession, nor (b) a thing in action"⁴⁴. As it can be seen from the draft text, the law would recognise the existence of a third category of things ("tertium quid") for those items that cannot be covered by either of the previously established and judicially strengthened categories. However, the draft text only refers to the existence of this third category but without "labeling" them with any specific designation. As the consultation process is still ongoing at the time of finalising the manuscript, no further comments or suggestions on the text of the draft legislation are known at this stage.

In comparison with common law jurisdictions, civil law legal systems are less flexible in the private law adaptation of digital assets. However, it does not mean an outright rejection of the adaptation of digital assets, but rather suggests a cautious and step-by-step preparation for the regulation of digital assets which necessarily means a kind of break with the previous doctrinal foundations. Countries with civil law systems, similarly to common law countries, are aware that the issues raised by the emergence of digital assets need to be addressed as soon as possible because delay could lead to transactions in the online space being governed by technology ("code is law") rather than by legal provisions since law cannot keep up with the speed of technological development.

In the majority of European countries where national legislators intend to establish regulations concerning digital assets, provisions were adopted only on cryptocurrencies either by making a single legal act or by means of amending the existing legal regulation on anti-money laundering (AML) and terrorist financing (e.g., Austria, Estonia, and Italy and Germany). In France, PACTE law (*Plan d'Action pour la Croissance et la Transformation des Entreprises*) was adopted in 2019 which, by amending the French Monetary and Financial Code (*Code monétaire et financier*), introduced the category of digital assets ("les actifs numériques"). However, the French legislator did not define the term itself but determined those items that are covered by this category. According to Article L54-10-1 of the

category of things in action holistically." See Low, K. F. K., "Cryptoassets and the Renaissance of the Tertium Quid?" [online], en Bevan, C. (ed.), *Handbook on Property Law and Theory* (Forthcoming), Edward Elgar, 2023, available at: https://ssrn.com/abstract=4382599 [accessed: 4 June 2024]. Robert Stevens expressly denies the recognisability of cryptocurrencies as property. See Stevens, R., "Crypto is not Property" [online], *Law Quarterly Review*, 2023 (Forthcoming), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4416200 [accessed: 4 June 2024], https://doi.org/10.2139/ssrn.4416200.

⁴⁴ Digital assets as personal property. Short consultation on draft clauses, *Law Commission*, February 2024, 11.

Monetary and Financial Code, digital assets include tokens and virtual currencies within the meaning of European law but exclude financial instrument-like assets.

Among the European states with civil law tradition, the *Republic of Serbia* is, until now, the only one which adopted digital assets in its domestic regulation in the form of a comprehensive legal act. In 2020, the Serbian Parliament adopted the *Law on Digital Assets* (hereinafter referred to as *LDA*)⁴⁵. According to the LDA, digital asset (or virtual asset as it is used as a synonym) means a digital representation of value that can be digitally bought, sold, exchanged, or transferred, and used as a means of exchange or for investment purposes. The term digital asset does not cover the digital representation of fiat currencies and other financial assets governed by other laws unless otherwise provided by this LDA⁴⁶. Serbian law, therefore, recognises digital assets as personal property⁴⁷.

Although the comprehensive regulation of digital assets is less common in European countries so far, the adoption of the previously mentioned MiCAR forces the EU Member States to align their national legal frameworks with the EU's regulatory framework concerning crypto-assets. This regulatory obligation may assist national legislators in adopting a definitive stance on the evaluation of digital assets.

III. Digitalisation and inheritance law

The field of inheritance law can be considered one of the least volatile areas of civil law, at least from the point of view that the basic concepts, legal categories, and principles were already formulated under Roman law and the relevant rules have changed relatively little over the centuries since then. (It is another matter that the detailed rules governing the institutions of inheritance law have undergone numerous amendments to adapt to the changing needs of society.) Nonetheless, technological developments and digitalisation, as observed in other areas of private law, give rise to questions in the field of succession law, which require national legislators to provide responses in the future.

Regarding the impacts of digitalisation, two main issues can be outlined. Primarily, it shall be examined whether and, if so, what provisions are necessary for the adaptation and recognition of electronic statements in succession law, as regards the declaration of the testator's will. The issue of the introduction and

⁴⁵ https://www.nbs.rs/export/sites/NBS _site/documents-eng/propisi/zakoni/digitalna_imovina_e. pdf [accessed: 29 May 2024].

⁴⁶ LDA, Article 2, paragraph 1

⁴⁷ Đurić, Đ., and Jovanović, V., "New Regulation of Digital Assets for Future Business – Case of Serbia" [online], Agora. International Journal of Juridical Sciences, Universitatea Agora din Oradea, Romania, vol. 17, No. 1, Section I. Juridical Sciences, 2023, 9, available at: https://univagora.ro/jour/index.php/aijjs/issue/view/181 [accessed: 3 July 2024], https://doi.org/10.15837/aijjs.v17i1.5742.

adoption of digital wills is of concern to both legal theorists and practitioners, as there is an increasing demand from society for individuals to be able to make their wills through the technologies offered by the modern world, in addition to traditional forms of testamentary dispositions.

Although the above-mentioned, essentially formal, question is very interesting and exciting, and there are already countries where the legal framework for digital wills has started to be developed⁴⁸, there is another issue that is relevant from the point of view of both testamentary and intestate succession. This issue is the question of how digital assets can be integrated into the system of rules governing the law of succession. The second issue will be dealt with in more detail below, partly given the limitations of the paper.

The initial focus of this study is the inheritability of various digital assets. Following this preliminary investigation, the subsequent objective is to consider the manner in which a digital asset that is deemed to be inheritable can be transferred, and to examine the issues that national legislators will need to address in order to regulate this process.

A. Inheritability of digital assets

One of the main problems raised by the digitalisation process concerning the law of succession is the inheritability of digital assets.

When someone dies, their legacy passes to their heirs (universal succession). The inheritance as a special estate, i.e., total assets of the deceased person, encompasses all active and passive assets (e.g., real estate, movable property, bank account money, other claims, debts, other liabilities, etc.) of the deceased. However, it is a question whether inheritance may cover digital assets to which the deceased is "entitled" (e.g., crypto investment, NFT artwork purchased online, pictured, digital document, music collection, etc.).

The discussion of the aforementioned topic requires a multi-directional approach. However, it is quite problematic since many factors make the elaboration difficult.

⁴⁸ In the USA, several Member States have already started preparing a legislative framework in the twenty-tenth to allow for the electronic declaration of a testator's will by revising and amending the provisions of succession law. In 2019, the Uniform Law Commission (ULC) created the *Uniform Electronic Wills Act (UEWA)*. Following the adoption of this model law, several Member States have taken steps to prepare for the incorporation of electronic wills into their succession laws. At present (at the time of finalising the manuscript of this study) there are fifteen Member States where the UEWA has been promulgated. Of these, there are seven (Georgia, Michigan, Missouri, New Jersey, New York, North Carolina, and Virginia) where the relevant provisions are already in force.

[130] ÁGNES JUHÁSZ

1. The lack of a general concept of digital assets

As discussed in the first part of this study, a general and precise concept of digital assets does not exist, and, due to their great variety and variability, the possibility and necessity of formulating such a general concept is in question⁴⁹. The creation of the definitions contained by the different European legal tools wether mandatory or not, are driven by the aim of the given regulation (e.g., digital asset as security). However, this feature greatly influences the content of the definition and excludes, or at least limits, the applicability of the examined notion in situations other than regulated by the legislative tools.

As already mentioned in the introduction to this paper, in the Autumn of 2023, ELI launched its latest project, "Succession of Digital Assets, Data, and other Digital Remains", which aims to develop principles and model rules for the succession of digital assets by October 2025. One of the main objectives of the project – and probably the most problematic point of – is to define the framework of the digital asset as a central concept. At one of the project's kick-off meetings, reference was made to the concept of digital assets as set out in the ELI Principles, but it was also made clear that the definition should be more narrowly defined⁵⁰.

Regarding the above project, it is worth mentioning that representatives of the continental legal system and the Anglo-Saxon legal system are also involved in the consultation. The participation of professionals from the common law system is particularly important since the concept of property law in English law significantly differs from the traditional continental approach to property law, as it was discussed above. This difference in the approach has a major impact on the adaptation of digital assets in the legal system and their treatment in succession law.

As mentioned before, RUFADAA also contains the definition of digital assets. This is a broad concept: all items fall under the category of digital asset if (a) it is an electronic record, and (b) an individual has a right or interest in it. Nevertheless, any underlying asset or liability is excluded from the category, unless it is an electronic record itself. If an item fulfils the above-mentioned criteria, it is covered by the term of digital asset, and therefore, provisions of the RUFADAA are applicable.

⁴⁹ Cf. Hopkins, J. P., "Afterlife in the Cloud: Managing a Digital Estate" [online], Hastings Science and Technology Law Journal, University of California, College of the Law San Francisco, vol. 5, No. 2, 2013, 211, available at: https://repository.uclawsf.edu/hastings_science_technology_law_journal/vol5/iss2/1/ [accessed: 5 July 2024]; "Making a Will" [online] (Consultation Paper 231), Law Commission, Crown Copyright 2017, 238-239, available at: https://s3-eu-west-2.amazonaws.com/cloud-platform-e218f50a4812967ba1215eaecede923f/uploads/sites/30/2017/07/ Making-a-will-consultation.pdf [accessed: 24 June 2024].

⁵⁰ Cf. ELI Project Kick-Off Webinar on Succession of Digital Assets, Data and Other Digital Remains [online], available at: https://www.europeanlawinstitute.eu/news-events/news-contd/news/eli-project-kick-off-webinar-on-succession-of-digital-assets-data-and-other-digital-remains/?no cache=1&cHash=9c9096439e99e5167292ca3d7931a948 [accessed: 13 June 2024].

In my view, the general term "digital asset" should be perceived as a broad, and, at the same time, open concept with varying content. Since the category of digital assets covers several types of digital assets that cannot be listed, the definition shall not contain any kind of listing. Moreover, since the content of the category, i.e. the scope of digital assets changes, and expands from time to time in the light of technological developments, the concept shall be made flexible to adapt it to future achievements. Therefore, not the concrete examples, but the main characteristics and common features (e.g., digitally recorded nature) shall be laid down in the definition of a digital asset.

2. Uncertainties of considering digital assets

Digital assets are surrounded by countless uncertainties, which are attributable to the lack of regulation, on the one hand, and the shortcomings of the already existing rules, on the other hand. The main problem is that there is no generally accepted understanding of digital assets, i.e. the civil law assessment of digital assets is still controversial. To discuss the inheritability of digital assets, the assessment of digital assets and their adaptation into civil law regulation is essential. Indeed, the question of the inheritability of digital assets can only arise at all if civil law can treat digital properly, either within the property law rules (i.e. as an object of ownership or by extending the application of the rules on things) or by deeming it as a claim and applying the provisions of the law of obligations⁵¹.

As written before, it should be answered if inheritance may cover digital assets to which the deceased is "entitled". It shall be emphasised that the meaning of the term "entitled" depends on the relationship between the deceased person and the given digital asset. Therefore, the civil law assessment of digital assets is necessary. If digital assets are considered property, they fall under the scope of inheritance because of the ownership rights of the deceased person. Nevertheless, digital assets may also be included in the inheritance if the deceased person was a creditor, e.g., in the case of crypto investment, was entitled to claim it. However, if the deceased person were neither the owner nor the entitled person of the claim but had only the right to use a given digital asset, the inheritance would not cover it.

In summary, since answering the question if digital assets fall under the scope of the inheritance of a deceased person depends on the civil law treatment of digital assets, it cannot be answered until the nature of digital assets as a preliminary question is clarified. Given that such clarification does not yet exist, the potential answers we outline for inheritance law problems in this study are only hypothetical. The study commences with the hypothesis that digital assets are treated properly by civil law, i.e. either based on in-rem rules, and deemed as things, or on the

⁵¹ In Hungarian law, for example, Article 8:1(5) of the Civil Code declares that the term "asset" includes not only things but rights, and claims.

[132] ÁGNES JUHÁSZ

provisions of the law of obligation, considered as claims. Disregarding the method of treatment, both cases make it possible to consider digital assets as part of the inheritance of the deceased person. Considering this, potential solutions for the inheritance of digital assets can be drafted.

3. The great variability of digital assets

As mentioned above, the great variability of digital assets prevents the formulation of a single concept. Even if it is decided how to consider digital assets from a civil law perspective, there are still several additional succession law questions that, due to the non-listable nature of digital assets, are complicated to answer.

Indeed, if the law were to recognise digital assets as property in general and extend the application of the property law rules to them, this would only mean that digital assets would have to be considered part of the testator's estate, i.e., inheritance. However, digital assets require different treatment because of their diversity: for example, an investment in the form of a cryptocurrency a social media account with the data of conversations and images, or pictures and other files stored on a person's computer cannot and should not be treated identically.

Various definitions of digital assets were described in Point I. A part of this study. Moreover, in Point I. B, the possible ways for grouping digital assets were discussed. As was also pointed out, the categorisation of digital assets is particularly important from the point of view of succession law, since the creation of distinct categories can designate the possible way for the treatment of digital assets, which can later be the basis for a differentiated and coherent legal regulation. It is indisputable that only a differentiated approach can give proper answers to the succession law questions. Therefore, in accordance with the categorisation proposed by Klasiček⁵², it is recommended that a problem-oriented grouping of digital assets be implemented to address the questions of inheritance law. Specifically, it is advised that digital assets which give rise to analogous or at least comparable issues be "collected and subsequently organised into a unified category. The objective of this approach is to formulate a viable regulatory solution for the resolution of these issues.

B. Inheritance of the different types of digital assets

In the following, the different categories of digital assets that can be inherited will be considered. It should be emphasised, however, that *the drafted solutions* that are outlined below are only hypothetical. The question of the inheritance of a digital asset can only be answered if a digital asset falls within the scope of the legacy, i.e. if it is deemed to be property or a claim under obligation law. The

⁵² Klasiček, D., "Inheritance Law in the Twenty-First Century", cit, 239.

following review will proceed by category to attempt to answer the questions of succession law that arise.

1) The first category of digital assets encompasses those digital assets that are stored on an electronic device or a similar medium, created by the owner of the device. These assets are *personal assets*⁵³ that always link to a physical thing (e.g., computer, mobile phone, USB stick, external memory). Due to their tangible nature, these assets can be considered as property, thereby giving rise to ownership. The data storage device and the stored digital files (documents in Word, PDF, or other formats, pictures, etc.) shall be distinguished. Therefore, a question arises whether the succession of the given physical asset (e.g., computer) automatically implies the succession of a digital asset.

From a legal standpoint, two possible answers to this question can be postulated: (a) the heir of the physical electronic device inherits the stored digital assets as well, or (b) the succession of the physical electronic device and the stored digital assets shall be treated separately.

In practice, the inheritance of digital files stored on electronic devices goes through a kind of "informal or de facto inheritance", since the heir of a given electronic device gets access to the files stored on it. Nevertheless, it does not mean that the solution outlined in Point (a) should be adopted into the existing succession law legal framework. Indeed, the above-mentioned informal way is free from problems when digital assets (e.g., photos, pictures, music, and video files, etc.) stored on an inherited device have no financial nature, and the heir or heirs have access to the given device. However, in the case of password-protected devices, in the absence of access data, heirs may try to decode the password; otherwise, they shall accept that they cannot access the stored files⁵⁴.

On the other hand, digital assets with financial value may raise a dispute between heirs. Moreover, answering is more problematic in those cases where the stored digital assets fall under the scope of intellectual property law (e.g., manuscripts, architectural plans, designs, technical description of the invention to be patented, digital artworks, etc.).

Law is for treating the problems that arise in practice. Lawmakers shall, therefore, prepare a legal framework, according to which disputes that arise between the heirs, either due to the financial value or the intellectual property nature of the given digital asset, could be solved. This leads to the conclusion that the succession of electronic devices capable of storing digital files and the digital assets stored

⁵³ Cf. Cahn, N., "Postmortem Life On-Line" [online], *Probate and Property*, American Bar Association, vol. 25 July/August 2011, 36, available at: https://core.ac.uk/download/pdf/232644468. pdf [accessed: 29 June 2024].

⁵⁴ See for example the case of the famous composer, Leonard Bernstein, described by Klasiček, D., "Inheritance Law in the Twenty-First Century", cit., 240.

on them should be treated separately, even if in some problem-free cases, the informal (or de facto) inheritance could provide a proper and convenient solution.

2) In the case of digital assets which are stored not on the personal and mostly password-protected electronic device of the deceased person, but on the server of an online platform or in the cloud, inheritance law problems are more nuanced and complex.

On the one hand, all digital assets that are stored in devices can also be stored in online platforms or the cloud. Moreover, not only the different files but the content of e-mail accounts (e.g., Gmail, Outlook, Yahoo Mail, etc.), chat accounts (e.g., WhatsApp, Snapchat, Skype, etc.), social media accounts (e.g., Facebook, Instagram, X [previously known as Twitter], etc.), and other kinds of user accounts (e.g., YouTube, iTunes, Spotify, TikTok, LinkedIn, etc.) can also fall under this category. It means that the scope of this category of digital assets is much broader: data-based content having a highly personal nature or protected by copyright law could also be involved.

If one intends to answer the question of how these digital assets can be inherited, it is necessary to examine several aspects. Firstly, it should be noted that although the digital assets reviewed in Point A partly overlap with the digital assets mentioned in Point B), the potential succession law solution for them is different. This is due to the way the digital assets are stored. While digital assets in Point A) are stored on the personal electronic device of the deceased person who exercised a kind of right of disposal (e.g., he decides to copy, share, send, or delete the file) in his lifetime, in the case of digital assets in Point B), the deceased person stored the digital asset by the contribution of a third person, a digital service provider (hereinafter DSP). DSPs are companies that provide different services, e.g., cloud services, hosting, marketplaces, online search engines, etc.⁵⁵.

On the hosting provided by a DSP (e.g., iCloud, Dropbox, Google Drive, OneDrive, Flickr, etc.), the user can store very diverse content, i.e. not only digital assets that are closely linked to the deceased person (e.g., files, documents or other intellectual works made, saved and uploaded by him) but other assets which were collected and systemized by the deceased (e.g., music and video files, scientific or other kinds of journal articles, etc.) can also be involved.

It is important to note that although the deceased was who decided to store his digital assets in such a way, he made it on the hosting provided by the DSP under a contractual agreement, a digital service contract concluded between the

Within the EU, the activity and liability of DSPs are regulated by the Digital Services Act (DSA). (Regulation 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC, OJ L 277, 27.10.2022, 1-102). On the one hand, DSA establishes a framework for the conditional exemption from liability of providers of intermediary services. On the other hand, it outlines rules on specific due diligence obligations tailored to certain specific categories of providers of intermediary services, i.e. mere conduit, caching, and hosting services.

deceased person and the DSP. Thus, even if the data stored in these servers belongs to the user of the account, online platforms own it. This prompts several salient questions for further consideration.

Before one creates an online account, either a social media account or other accounts, he has to agree to the terms and conditions of the given platform. Then, he can create his account by giving a username and a password and can customise it with his image. At first sight, the problem is similar to the case discussed in Point A): if heirs know the access data, they can log in to the user account of the deceased person, and they can get the stored files, i.e. from this time on, they can dispose of the contents of the account. Although it is practically true, legal concerns are raised. Indeed, the contribution of the DSP complicates the situation. Since a contractual agreement was concluded between the deceased person and the DSP on the provision of a given online service, the terms and conditions of this contract shall prevail. The contract may expressly contain a provision on the right to access the specified account and whether user data (e.g., password) could be shared with other persons. These provisions can allow or exclude the sharing of this data. In the latter case, the user has no right to share the access data. Consequently, the access of heirs to an account in the possession of a password is illegal, and the DSP is entitled to apply the legal consequences stipulated in the contract (e.g., the termination of the account).

On the other hand, the inheritability of the given account and its content is also a question. Until a few years ago, DSPs did not provide the inheritance of the personal accounts of the users. But, due to the increasing number of users and the arising problems with the death of the users, such as the pressure of the media and the family relatives of the persons who passed away, DSPs realised that creating provisions on the inheritability of the accounts is necessary. Nevertheless, DSPs apply various terms and conditions and mostly do not provide information about the inheritability, but the transferability of the account. Currently, most DSPs expressly prohibit the transfer of personal accounts, both between living persons and for the event of death⁵⁶. There are a few DSPs that expressly exclude the inheritance of an account.

Beyond a general approach to the inheritability of digital assets stored on online platforms, it is worth a few sentences to address specifically the issues related to *social media accounts*. In the case of these kinds of accounts, transferring the account is quite easy if one is the admin of the given account and has all the data that is needed. In the case of death, these platforms (e.g., Facebook, Instagram, and X) make it possible to add a *legacy contact*. After the death of the user, this contact person will have the right to ask the DSP to delete the profile or turn it

⁵⁶ The terms of Apple, for example, state that, apart from the rules on Digital Legacy, the account is non-transferable, and there is no right of survivorship. See https://www.apple.com/uk/legal/internet-services/icloud/en/terms.html [accessed: 1 July 2024].

[136] ÁGNES JUHÁSZ

into a memorial page. The contact person will not get the login ID, username, and password, and, therefore, will have no access to the personal account of the deceased⁵⁷.

The inheritability of social media accounts is very controversial. Some users want to share this information with his or her future heirs. Others would not get involved in this very personal part of his or her private life. The majority of users do not even address this issue, although it is probable that the growing awareness of online platform users in this area will also be reflected in the number of users appointing a contact person for the digital legacy. The heirs' perspective is also a mixed picture: some of them want to access their deceased loved one's account at all costs (e.g., in case of presumed suicide)⁵⁸, while others respect the privacy of the deceased and do not try to find out their secrets after death. A further problem is that by revealing the personal account of the deceased person, a lot can be discovered about anybody the user ever communicated with⁵⁹. From the perspective of privacy protection, this raises serious concerns. It can thus be concluded that

⁵⁷ See for example https://www.facebook.com/help/1017717331640041 [download: 1 July 2024]; https://help.instagram.com/231764660354188 [accessed: 1 July 2024]; https://help.twitter.com/en/rules-and-policies/contact-x-about-a-deceased-family-members-account [accessed: 1 July 2024].

⁵⁸ In 2012, following the death of their daughter in unclear circumstances, a German couple went to court to get access to their daughter's Facebook account, since her profile had been turned into a memorial page by Facebook and the access had been excluded. According to the judgment of the Federal Supreme Court (Bundesgerichtshof, BGH), access to the user account and the communication content contained therein is not prevented by either the deceased person's right to privacy or the telecommunications secrecy or data protection law. Cf. BGH, Judgment of 12 July 2018 - III ZR 183/17. ECLI:DE:BGH:2018:120718UIIIZR183.17.0.; BGH, Order of 27 August 2020 - III ZB 30/20, ECLI:DE:BGH:2020:270820BIIIZB30.20.0. For a detailed case analysis see Fuchs, A., "What Happens to Your Social Media Account When You Die? The First German Judgments on Digital Legacy" [online], in ERA Forum, Academy of European Law, vol. 22, 2021, 1-7, available at: https://link.springer.com/article/10.1007/s12027-021-00652-y [accessed: 7 July 2024], https:// doi.org/10.1007/s12027-021-00652-y. Similar cases are also known in the United States. See In re Request for Order Requiring Facebook, Inc. to Produce Documents and Things 923 F Supp 2d 1204 (ND Cal 2012); In re Ellsworth No. 2005-296, 651-DE (Mich Prob Ct 2005). From the relevant literature see Cummings, R. G., "The Case Against Access to Decedents' e-Mail: Password Protection as an Exercise of the Right to Destroy" [online], Minnesota Journal of Law Science & Technology, University of Minnesota Law School, vol. 15, No. 2, 2014, 897-947, available at: https://scholarship.law.umn.edu/mjlst/vol15/iss2/5 [accessed: 9 July 2024]. In Italy, there are also cases where the court ordered the given DSP to provide access to the digital data and accounts of the deceased relatives. See Tribunale di Milano 9 February 2021, available at: https://ilmiodpo.it/2021/03/31/ord-trib-milano-09-02-2021/ [download: 9 July 2024]; Tribunale di Bologna 25 November 2021, available at: https://i2.res.24o.it/pdf2010/Editrice/ILSOLE24ORE/ QUOTIDIANI _ VERTICALI/Online/_Oggetti_Embedded/Documenti/2022/01/20/Tribunale%20 di%20Bologna.pdf [download: 9 July 2024]. For a detailed introduction to the Italian cases see Maspes, I., "Digital Inheritance, Right of the Heirs to Access to the Deceased User's Account, Non-Transferability Clauses: An Overview in the Light of Two Judgments Issued by Italian Courts" [online], Italian Law Journal, Edizioni Scientifiche Italiane, vol. 8, No. 1, 2022, 407-423, available at: https://theitalianlawjournal.it/data/uploads/8-italj-1-2022/407-mapes.pdf [accessed: 2 July 2024], https://doi.org/10.23815/2421-2156.ITALJ.

⁵⁹ Klasiček, D., "Inheritance Law in the Twenty-First Century", cit., 241.

the general inheritance of the right to access the account of the deceased person cannot be justified by appropriate arguments. The social media account and its content are of a personal nature; therefore, heirs must respect what their deceased loved one wishes to keep secret.

The inheritance law assessment of the content of an *e-mail account* could be similar. Whether or not the letters of the deceased person were his property⁶⁰, the correspondence of the deceased person has a personal nature and can reveal secret information belonging to other persons. The form, i.e. the physical object which carries the information (e.g., letter), and its content, i.e. the information which that object conveys, shall be distinguished. While the letter as a tangible thing can be the property of a person, the content of the letter is protected by privacy rules. By analogy, the same can be applied to e-mails.

As can be seen, a variety of accounts, including but not limited to social media accounts, e-mail accounts, and others, raise questions that go beyond the boundaries of the right of succession and require a comprehensive study of the provisions on the protection of personality rights. In this study, we do not intend to extend our examination to this question. However, it is noteworthy that in the contemporary literature, the subject of *post-mortem privacy* is gaining prominence and is a matter of growing concern within the legal community⁶¹.

3) Digital assets that have been purchased from online platforms or cloud services can be drafted as the third category of digital assets. These are "thing-kind digital assets" at least in the sense that the entitled person ("user") treats them like his real-life property when he owns, uses, and transfers them as property. This category covers a wide range of digital assets. People can get online

On the consideration of e-mails see the following cases: Fairstar Heavy Transport NV v Adkins [2012] EWHC 2952 (TCC); In re Ellsworth, No. 2005-296, 651-DE (Mich. Prob. Ct". 2005). Both cases are reviewed in Harbinja, E., "Legal Nature of e-Mails: a Comparative Perspective" [online], Duke Law & Technology Review, Duke Law School, vol. 14, No. 1, 2015-2016, 227-255, available at: https://scholarship.law.duke.edu/dltr/vol14/iss1/10/ [accessed: 6 July 2024]. Moreover, see Darrow, J. J., and Ferrera, G. R., "Who Owns a Decedent's e-Mails: Inheritable Probate Assets or Property of the Network?" [online], Journal of Legislation & Public Policy, New York University, vol. 10, 2007, 281-320, available at: https://heinonline.org/HOL/Page?handle=hein. journals/nyulpp10&div=3&g_sent=1&casa_token=&collection=journals [accessed: 3 July 2024]; Edwards, L., and Harbinja, E., "What Happens to My Facebook Profile When I Die?: Legal Issues Around Transmission of Digital Assets on Death" [online], en Maciel, C., and Carvalho Pereira, V. (eds.), Digital Legacy and Interaction. Post-Mortem Issues, Springer International Publishing Switzerland, 2013, 115-144, available at: https://link.springer.com/book/10.1007/978-3-319-01631-3 [accessed: 1 July 2024], https://doi.org/10.1007/978-3-319-01631-3.

⁶¹ See for example Edwards, Lilian, and Harbinja, E., "Protecting Post-Mortem Privacy: Reconsidering the Privacy Interests of the Deceased in a Digital World" [online], Cardozo Arts & Entertainment Law Journal, Cardozo School of Law, vol. 32, No. 1, 2013, 101-147, available at: https://www.cardozoaelj.com/wp-content/uploads/2011/02/Edwards-Galleyed-Final.pdf [accessed: 28 June 2024]; Harbinja, E., "Post-Mortem Privacy 2.0: Theory, Law, and Technology" [online], International Review of Law, Computers & Technology, Taylor & Francis, vol. 31, No. 1, 2017, 26-42, available at: https://www.tandfonline.com/doi/full/10.1080/13600869.2 017.1275116 [accessed: 23 June 2024], https://doi.org/10.1080/13600869.2017.1275116.

games, books, music, and movies, but in the form of NFT, purchasing artwork and other collectibles, as well as other virtual items like clothes, shoes, a house, etc. became possible.

People who purchase these kinds of items from online stores (e.g., Google Play, Microsoft Store, iTunes, Kindle Store, Apple Book Store, etc.) are rarely aware of what they get by accepting the terms of the contract. This is not surprising since the use of words by DSPs is misleading. The use of terms like "buy now" or purchase' suggests to the user ("buyer") that he acquires the ownership right of the given digital asset (e.g., digital content, e-book, music, video, etc.) Nevertheless, this is not true. When the user "buys" the given digital asset, he pays for getting the right to access the digital content protected by copyright, i.e., the online platform grants him a *personal copyright license* in respect of the purchased digital content⁶².

The question of whether heirs can inherit the digital content purchased by the deceased is a complex one. At first sight, the above-mentioned "informal inheritance" (or "de facto inheritance") can be an option if heirs know the access data of the deceased. However, it should be noted that the majority of contract terms and conditions prohibit users from sharing the access data with third parties or hold them responsible for maintaining the confidentiality of their account and password, as well as for restricting access⁶³. Such conduct would be contrary to the contract between the DSP and the deceased person, meaning that the transferability of the right to access depends on the terms and conditions defined by the DSP. Therefore, when a DSP grants a non-transferable license to the user, there is no possibility for inheritance.

As can be seen, the inheritance of digital assets purchased from online platforms is quite specific. While in the case of assets existing in the real world, national legislators create rules on the inheritance of these assets via succession law, in the case of the purchased digital assets, DSPs appear as quasi-legislators. In the absence of a legal framework for the inheritance of digital assets, DSPs can freely create their own rules and limit the transferability of the right to access a personal account both among living people and in the event of death.

⁶² Klasiček, D., "Inheritance Law in the Twenty-First Century", cit., 243; Michels, J. D.; Kamarinou, D., and Millard, C., "Beyond the Clouds, Part 2: What Happens to the Files You Store in the Clouds When You Die?" [online], School of Law Legal Studies Research Paper, Queen Mary University of London, School of Law, No. 316, 2019, available at: https://ssrn.com/abstract=3387398 [accessed: 8 July 2024]; Patti, F. P., and Bartolini, F., "Digital Inheritance and Post Mortem Data Protection: The Italian Reform" [online], European Review of Private Law, Wolters Kluwer, vol. 27, No. 5, 2019, 1181-1194, available at: https://kluwerlawonline.com/journalarticle/European+Review+of+Private+Law/27.5/ERPL2019064 [accessed: 4 July 2024], https://doi.org/10.54648/erpl2019064.

⁶³ Cf.: https://www.amazon.co.uk/gp/help/customer/display.html?nodeId=G9JUC5MPTMG3GCQH [accessed: 8 July 2024]; https://www.amazon.co.uk/gp/help/customer/display.html/?nodeId=201909000 [accessed: 8 July 2024].

4) Due to their economic value and market role, *cryptocurrencies* are arguably the most significant category of digital assets. Despite the occasional fluctuations, the popularity of cryptocurrencies continues unabated⁶⁴. People invest even more money in crypto: the value of these investments is increasing, and there is an actual demand from the members of the society to get clear regulation on the assessment of these assets. As can be seen, cryptocurrencies are the most regulated field of digital assets. Consequently, given the financial value represented by cryptocurrencies, it is reasonable to hypothesise that this category will be the first to be regulated among digital assets.

At first sight, the inheritance law treatment of cryptocurrencies seems to be easy and clear. Indeed, it seems to be obvious that cryptocurrencies as digital assets having financial value shall be a part of the legacy of the deceased person. Even if they exist only in digital form, they are bound to real life since they are purchased in real currency. Due to this, cryptocurrency can be deemed as a transformation of money, as a value step into the place of money: we turn our money into cryptocurrency.

Notwithstanding the assumption that cryptocurrencies constitute part of the legacy of the deceased person, further questions arise, since the enforcement of this succession law claim is pretty difficult for several reasons. Firstly, cryptocurrencies are, by their nature, impersonal. There is no register in which the ownership of a certain amount of cryptocurrency would be recorded, and therefore, the rights of the owner cannot be proved. A further technical problem is that only the owner of the cryptocurrency has access to the crypto wallet. It means that in the absence of login information, heirs cannot access the crypto wallet and dispose of the cryptocurrency.

Conclusions

In the first part of the study, attempts to define and categorise digital assets were briefly reviewed as a dogmatic basis for the work. This doctrinal foundation was essential because, in the absence of an adequate definition of digital assets, it is not possible to provide an adequate answer to the other questions that arise concerning the property law and succession law assessment of digital assets.

Considering the property law assessment of digital assets it can be concluded that the conceptualisation of digital assets as a distinct category of thing depends fundamentally on how the national private law of a given country defines the concept of a thing as a basic category of civil law and how flexible it is in its treatment of its boundaries. In all countries where the classification of an object as a thing in the legal sense depends on its tangibility, the adoption of digital assets in

⁶⁴ Cf. https://www.statista.com/topics/4495/cryptocurrencies/ [accessed: 8 July 2024].

[140] ÁGNES JUHÁSZ

the private legal system is a major difficulty, which may even require a doctrinal change of direction or a paradigm shift for the legislators of these countries.

In addition to the efforts of scholars in their research, which could provide a theoretical foundation for future legislative proposals, the practice of the courts is also noteworthy. Presently, in the absence of a comprehensive and precise legal framework, the judiciary has the capacity to determine the potential directions for the adaptation of digital assets on a case-by-case basis. This is especially evident in the case of common law jurisdictions.

The application of property law rules to digital assets is still a question⁶⁵. Creating "digital ownership" as a new civil law category is still to be waited for. Nevertheless, legal certainty is the main argument for recognising this category, since for the "owners" of digital assets, many questions are left unanswered in an unregulated space⁶⁶. One of these questions is the inheritability of digital assets which is a core question of the contemporary private law jurisprudence.

Among the previously described options for grouping digital assets based on different criteria, the categorisation developed by Dubravka Klasiček was selected as a starting point for the subsequent examination, with the aim of discussing the topic of the inheritability of digital assets. Nevertheless, another grouping made by Pawel Szwajdler was also mentioned, as he differentiated between digital assets based on their value. Considering digital assets having a purely financial nature (e.g., coins, cryptocurrencies, tokens, and other financially valuable digital assets) Szwajdler states that they, due to their financial value, should be understood as parts of the legacy⁶⁷. This statement can be acceptable only with some remarks.

In the case of specific digital assets, such as cryptocurrencies, the financial value is readily apparent. However, in other cases, the financial value of a given digital asset may change over time, or the future value cannot be calculated at the time when the person (owner, user) passes away. Other digital assets are worthless for certain heirs but have great value for others. In these cases, the value of the given digital asset is relative and mostly emotional.

We consider that the grouping of digital assets based on purely their financial value is not suitable for creating a proper basis for the inheritance of digital assets. Nevertheless, we can agree with Szwajdler that the financial value of a

⁶⁵ Cf. Michels, J. D., and Millard, C., "Mind the Gap: The Status of Digital Files Under Property Law" [online], School of Law Legal Studies Research Paper, Queen Mary University of London, School of Law, No. 317, 2019, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_ id=3387400 [accessed: 3 July 2024].

⁶⁶ Alessandro, Matteo, "Non-fungible Tokens: An Argument of the Ownership of Digital Property" [online], *International Journal of Law In Changing World*, Special Issue: NFTs and the Legal Landscape, 2023, 188, available at: https://ijlcw.emnuvens.com.br/revista/article/view/55 [accessed: 2 July 2024], https://doi.org/10.54934/ijlcw.v2i3.55.

⁶⁷ Szwajdler, P., "Digital Assets and Inheritance Law", cit., 152.

given digital asset, especially in the case of cryptocurrencies, makes it suitable to be part of the legacy of the deceased person.

In summary, partially based on the grouping of Klasiček and Szwajdler, digital assets from the inheritance law aspect can be divided into three categories based on their "behaviour". There are digital assets that have a nature like real-life things: they behave like things in real life. Although these items cannot be owned in the traditional, physical sense, the entitled person, even if called "user", exercises certain rights similar to rights encompassed by the ownership: he can (digitally) possess, use, and dispose of the given digital asset, e.g., he can transfer it.

It is evident that there are other digital assets that cannot be categorised as claims. Primarily, cryptocurrencies are included in this category. The third category covers assets that have a data-like nature. These digital assets are predominantly of a personal nature and comprise various items relating to the deceased (e.g., social media accounts, e-mail accounts, etc.).

Why is it important to distinguish the above-mentioned categories of digital assets? While the first two categories of digital assets can be part of the legacy of the deceased person, the third one will not fall under the scope of succession rules but shall be considered under privacy rules. Nevertheless, it is a further question whether heirs can get the right to access digital content. As Michels, Kamarinou, and Millard say, "digital files [...] exist in a grey area under property and succession law"⁶⁸. Thus, in the absence of a clear legal framework, DSPs make the rules by their contract terms and conditions and decide whether heirs get the right to access the account of their deceased loved one. On the other hand, however, DSPs shall respect the users' mortis cause dispositions. Moreover, there is a further need to standardise and create a more transparent system of post-mortem rules in the regulation of the DSPs⁶⁹.

In conclusion, it appears that the legal response to the question of whether digital assets are inheritable is an incremental affirmation⁷⁰, aligning with societal expectations. However, a significant challenge arises when attempting to impose our conventional thinking on these novel phenomena and pigeonhole digital assets into our traditional system of civil law concepts by all means. It is therefore recommended that current succession law regulations be upgraded and, by elaborating new principles and concepts (e.g., digital inheritance, digital heir, digital will, etc.) adjusted to the needs of the modern age, will be suitable for the adoption of digital assets.

⁶⁸ Michels, J. D. et al., "Mind the Gap", cit., 29.

⁶⁹ Szwajdler, P., "Digital assets and inheritance Law", cit., 159.

⁷⁰ Banta, Natalie, "Property Interests in Digital Assets: The Rise of Digital Feudalism", *Cardozo Law Review*, vol. 38, No. 3, 2017, 1108.

[142] ÁGNES JUHÁSZ

References

Alessandro, Matteo, "Non-fungible Tokens: An Argument of the Ownership of Digital Property" [online], *International Journal of Law In Changing World*, Special Issue: "NFTs and the Legal Landscape", 2023, 171-201, available at: https://ijlcw.emnuvens.com.br/revista/article/view/55 [accessed: 2 July 2024], https://doi.org/10.54934/ijlcw.v2i3.55.

- Banta, Natalie, "Property Interests in Digital Assets: The Rise of Digital Feudalism", *Cardozo Law Review*, vol. 38, No. 3, 2017, 1099-1157.
- Berlee, Anna, "Digital Inheritance in the Netherlands", *Journal of European Consumer and Market Law (Eucml)*, Wolters Kluwer, vol. 6, No. 6, 2017, 256-260.
- Beyer, Garry W., and Cahn, Naomi, "Digital Planning: The Future of Elder Law" [online], *NAELA Journal*, National Academy of Elder Law Attorneys, vol. 9, No. 1, 2013, 35-155, available at: https://scholarship.law.gwu.edu/cgi/viewcontent.cgi?article=2255&context=faculty_publications [accessed: 27 June 2024].
- Birnhack, Michael, and Morse, Tal, "Digital Remains: Property or Privacy?" [online], *International Journal of Law and Information Technology*, Oxford Academic, vol. 30, No. 3, 2022, 280-301, available at: https://academic.oup.com/ijlit/article-abst ract/30/3/280/6840448?redirectedFrom=fulltext [accessed: 6 July 2024], https://doi.org/10.1093/ijlit/eaac019.
- Çağlayan, Pınar Aksoy, "The Applicability of Property Law Rules for Crypto Assets: Considerations from Civil Law and Common Law Perspectives" [online], *Law, Innovation and Technology*, Taylor & Francis, vol. 15, No. 1, 2023, 85-221, available at: https://www.tandfonline.com/doi/full/10.1080/17579961.2023.2184140 [accessed: 6 July 2024], https://doi.org/10.1080/17579961.2023.2184140.
- Cahn, Naomi, "Postmortem Life On-Line" [online], *Probate and Property*, American Bar Association, vol. 25, July/August 2011, 36-39, available at: https://core.ac.uk/download/pdf/232644468.pdf [accessed: 29 June 2024].
- Chan, Timothy, "The Nature of Property in Cryptoassets" [online], *Legal Studies*, University of Cambridge, vol. 43, No. 3, 2023, 480-498, available at: https://www.cambridge.org/core/journals/legal-studies/article/nature-of-property-in-cryptoassets/6B882C05BD3D9A7A924FBE41C359E92E [accessed: 2 July 2024], https://doi.org/10.1017/lst.2022.53.
- Cheong, Ben Chester, and Lin, Kunche, "Crypto Assets Are Property, Specifically, Choses in Action, that Are Capable of Being Held on Trust" [online], *SAL Practitioner*, Singapore Academy of Law, 2024, 2, available at: https://journalsonline.academypublishing.org.sg/Journals/SAL-Practitioner/Fintech [accessed: 4 June 2024], https://doi.org/10.2139/ssrn.4720009.
- Cummings, Rebecca G., "The Case Against Access to Decedents' e-Mail: Password Protection as an Exercise of the Right to Destroy" [online], *Minnesota Journal of Law Science & Technology*, University of Minnesota Law School, vol. 15, No. 2, 2014, 897-947, available at: https://scholarship.law.umn.edu/mjlst/vol15/iss2/5 [accessed: 9 July 2024]

- Darrow, Jonathan J., and Ferrera, Gerald R., "Who Owns a Decedent's e-Mails: Inheritable Probate Assets or Property of the Network?" [online], *Journal of Legislation & Public Policy*, New York University, vol. 10, 2007, 281-320, available at: https://heinonline.org/HOL/Page?handle=hein.journals/nyulpp10&div=3&g_sent=1&casa_token=&collection=journals [accessed 3 July 2024].
- Đurić, Đuro, and Jovanović, Vladimir, "New Regulation of Digital Assets for Future Business – Case of Serbia" [online], Agora. International Journal of Juridical Sciences, Universitatea Agora din Oradea, Romania, vol. 17, No. 1, Section I. Juridical Sciences, 2023, 7-16, available at: https://univagora.ro/jour/index.php/aijjs/issue/view/181 [accessed: 3 July 2024], https://doi.org/10.15837/aijjs.v17i1.5742.
- Edwards, Lilian, and Harbinja, Edina, "Protecting Post-Mortem Privacy: Reconsidering the Privacy Interests of the Deceased in a Digital World" [online], *Cardozo Arts & Entertainment Law Journal*, Cardozo School of Law, vol. 32, No. 1, 2013, 101-147, available at: https://www.cardozoaelj.com/wp-content/uploads/2011/02/ Edwards-Galleyed-FINAL.pdf [accessed: 28 June 2024].
- Edwards, Lilian, and Harbinja, Edina, "What Happens to My Facebook Profile When I Die?: Legal Issues Around Transmission of Digital Assets on Death" [online], in Maciel, Cristiano, and Carvalho Pereira, Vinícius (eds.), *Digital Legacy and Interaction. Post-Mortem Issues*, Springer International Publishing Switzerland, 2013, 115-144, available at: https://link.springer.com/book/10.1007/978-3-319-01631-3 [accessed: 1 July 2024], https://doi.org/10.1007/978-3-319-01631-3.
- Fairfield, Joshua, "Property as the Law of Virtual Things" [online], Frontiers in Research Metrics & Analytics, vol. 7, 2022, 1-14, available at: https://www.frontiersin.org/journals/research-metrics-and-analytics/articles/10.3389/frma.2022.981964/full [accessed: 3 February 2024], https://doi.org/10.3389/frma.2022.981964.
- Fuchs, Angelica, "What Happens to Your Social Media Account When You Die? The First German Judgments on Digital Legacy" [online], in *ERA Forum*, Academy of European Law, vol. 22, 2021, 1-7, available at: https://link.springer.com/article/10.1007/s12027-021-00652-y [accessed: 7 July 2024], https://doi.org/10.1007/s12027-021-00652-y.
- Harbinja, Edina, "Legal Nature of E-mails: a Comparative Perspective" [online], *Duke Law & Technology Review*, Duke Law School, vol. 14, No. 1, 2015-2016, 227-255, available at: https://scholarship.law.duke.edu/dltr/vol14/iss1/10/ [accessed: 6 July 2024].
- Harbinja, Edina, "Post-Mortem Privacy 2.0: Theory, Law, and Technology" [online], International Review of Law, Computers & Technology, Taylor & Francis, vol. 31, No. 1, 2017, 26-42, available at: https://www.tandfonline.com/doi/full/10.10 80/13600869.2017.1275116 [accessed: 23 June 2024], https://doi.org/10.1080/13 600869.2017.1275116.
- Ho, Kan Jie Marcus, "Towards an Idea of Digital Asset Ownership", *Cambridge Law Review*, University of Cambridge, vol. 8, No. 1, 2023, 41-71.

[144] ÁGNES JUHÁSZ

Hopkins, Jamie P., "Afterlife in the Cloud: Managing a Digital Estate" [online], *Hastings Science and Technology Law Journal*, University of California, College of the Law San Francisco, vol. 5, No. 2, 2013, 209-244, available at: https://repository.uclawsf.edu/hastings_science_technology_law_journal/vol5/iss2/1/[accessed: 5 July 2024].

- Juhász, Ágnes, "Time for Rethinking? Non-Fungible Tokens and Ownership Rights from the Hungarian Point of View" [online], *Multidiszciplináris Tudományok*, University of Miskolc, vol. 13, No. 3, 2023, 36-46, available at: https://ojs.uni-miskolc.hu/index.php/multi/article/view/2374 [accessed: 8 July 2024], https://doi.org/10.35925/j.multi.2023.3.4.
- Juhász, Ágnes, "The Civil Law Concept of things in the Digital Era a Hungarian perspective", *Annales Universitatis Apulensis / Series Jurisprudentia*, Universitatea "1 Decembrie 1918" din Alba Iulia, Romania, No. 27, 2023, 132-148.
- Klasiček, Dubravka, "Inheritance Law in the Twenty-First Century: New Circumstances and Challenges" [online], in Gstrein, Oskar J.; Fröhlich, Mareike; van den Berg, Caspar, and Giegerich, Thomas (eds.), *Modernising European Legal Education (MELE) Innovative Strategies to Address Urgent Cross-Cutting Challenges*, Springer, 2023, 235-251, available at: https://link.springer.com/chapter/10.1007/978-3-031-40801-4_15 [accessed: 3 July 2024], https://doi.org/10.1007/978-3-031-40801-4_15.
- Krysa, Felix, "Taxonomy and Characterisation of Crypto Assets in Private International Law" [online], in Bonomi, Andrea; Lehmann, Matthias, and Lalani, Shaheeza (eds.), *Blockchain and Private International Law*, Brill–Nijhoff, 2023, 157-208, available at: https://brill.com/edcollchap-oa/book/9789004514850/BP000016.xml [accessed: 4 July 2024], https://doi.org/10.1163/9789004514850 009.
- Lenkovics, Barnabás, Dologi jog, Budapest, Eötvös József Könyvkiadó, 2001.
- Low, Kelvin F. K., "Cryptoassets and the Renaissance of the Tertium Quid?" [online], in Bevan, Chris (ed.), *Handbook on Property Law and Theory* (Forthcoming), Edward Elgar, 2023, available at: https://ssrn.com/abstract=4382599 [accessed: 4 June 2024].
- Manicad III, Macario B., and Perez, Alyanna D., "Digital Succession: Addressing the Disposition of Juan's Online Digital Assets Upon His Death", *Philippine Law Journal*, Diliman, Quezon City, Philippines, University of the Philippines College of Law, vol. 91, No. 2, 2018, 388-415.
- Maspes, Ilaria, "Digital Inheritance, Right of the Heirs to Access to the Deceased User's Account, Non-Transferability Clauses: An Overview in the Light of Two Judgments Issued by Italian Courts" [online], *Italian Law Journal*, Edizioni Scientifiche Italiane, vol. 8, No. 1, 2022, 407-423, available at: https://theitalian-lawjournal.it/data/uploads/8-italj-1-2022/407-mapes.pdf [accessed: 2 July 2024], https://doi.org/10.23815/2421-2156.ITALJ.
- Maydanyk, Roman, "General Provisions of Digital Property Law and How to Categorize Digital Assets", *Open Journal for Legal Studies*, Center for Open Access in Science (COAS), Belgrado, vol. 6, No. 2, 2023, 49-64, available at: https://centerprode.

- com/ojls/ojls0602/ojls-0602.html [accessed: 2 July 2024], https://doi.org/10.32591/coas.ojls.0602.02049m.
- Maydanyk, Roman; Maydanyk, Nataliia, and Popova, Nataliia, "Reconsidering the Concept of a Thing in Terms of the Digital Environment: Law Towards an Understanding of a Digital Thing" [online], *Open Journal for Legal Studies*, vol. 5, No. 2, 2022, 31-56, available at: https://centerprode.com/ojls/ojls0502/coas.ojls.0502.01031m.html [accessed: 2 July 2024], https://doi.org/10.32591/coas.ojls.0502.01031m.
- Menyhárd, Attila, Dologi jog, Budapest, Osiris Kiadó, 2007.
- Michels, Johan David; Kamarinou, Dimmitra, and Millard, Christopher, "Beyond the Clouds, Part 2: What Happens to the Files You Store in the Clouds When You Die?" [online], *School of Law Legal Studies Research Paper*, Queen Mary University of London, School of Law, No. 316, 2019, available at: https://ssrn.com/abstract=3387398 [accessed: 8 July 2024].
- Michels, Johan David, and Millard, Christopher, "Mind the Gap: The Status of Digital Files Under Property Law" [online], School of Law Legal Studies Research Paper, Queen Mary University of London, School of Law, No. 317, 2019, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3387400 [accessed: 3 July 2024].
- Michels, Johan David, and Millard, Christopher, "The New Things: Property Rights in Digital Files?", *The Cambridge Law Journal*, Cambridge University Press, vol. 81, No. 2, 2022, 323-355, https://doi.org/10.1017/S0008197322000228.
- Park, Yong Jin; Sang, Yoonmo; Lee, Hoon, and Jones-Jang, S. Mo, "The Ontology of Digital Asset After Death: Policy Complexities, Suggestions and Critique of Digital Platforms" [online], *Digital Policy, Regulation and Governance*, Emerald, vol. 22, No. 1, 2020, 1-14, available at: https://www.emerald.com/insight/content/doi/10.1108/DPRG-04-2019-0030/full/html], https://doi.org/10.1108/DPRG-04-2019-0030.
- Patti, Francesco Paolo, and Bartolini, Francesca, "Digital Inheritance and Post Mortem Data Protection: The Italian Reform" [online], *European Review of Private Law*, Wolters Kluwer, vol. 27, No. 5, 2019, 1181-1194, available at: https://kluwerlawonline.com/journalarticle/European+Review+of+Private+Law/27.5/ERPL2019064 [accessed: 4 July 2024], https://doi.org/10.54648/erpl2019064.
- Predrag, Mirković, "Digital Assets A Legal Approach to the Regulation of the New Property Institute" [online], *Pravo teorija i praksa*, Pravni fakultet za privredu i pravosuđe u Novom Sadu, vol. 40, No. 1, 2023, 17-31, available at: https://www.ceeol.com/search/article-detail?id=1112623 [accessed: 26 June 2024], https://doi.org/10.5937/ptp2300017M.
- Stevens, Robert, "Crypto is not Property" [online], Law Quarterly Review, 2023 (Forthcoming), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4416200 [accessed: 4 June 2024], https://doi.org/10.2139/ssrn.4416200.
- Szwajdler, Paweł, "Digital Assets and Inheritance Law: How To Create Fundamental Principles of Digital Succession System" [online], *International Journal of Law*

[146] ÁGNES JUHÁSZ

and Information Technology, Oxford Academic, vol. 31, No. 2, 2023, 144-168, available at: https://academic.oup.com/ijlit/article/31/2/144/7248529 [accessed: 28 June 2024], https://doi.org/10.1093/ijlit/eaad014.

Wendehorst, Christiane, "Proprietary Rights in Digital Assets and the Conflict of Laws" [online], in Bonomi, Andrea; Lehmann, Matthias, and Lalani, Shaheeza (eds.), *Blockchain and Private International Law*, Brill–Nijhoff, 2023, 101-127, available at: https://brill.com/edcollchap-oa/book/9789004514850/BP000014. xml [accessed: 4 July 2024], DOI: https://doi.org/10.1163/9789004514850 007.

Regulations and Model Rules

Act CCXXXVII of 2013 on Credit Institutions and Financial Enterprises (Hungary).

Act No. 89 of 1896 on the Civil Code (Japan).

Act V of 2013 on the Civil Code (Hungary).

Civil Ccode (Germany).

Directive 2009/110/EC, of the European Parliament and of the Council, of 16 September 2009 on the taking up, pursuit, and prudential supervision of the business of electronic money institutions amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC, OJ L 267, 10.10.2009, 7-17.

General Civil Code (Austria).

Law No. 287/2009 on the Civil Code (Romania).

Law of 3 October 2019 on tokens and TT service providers (Lichtenstein).

Law on Ddigital Aassets (Serbia).

Principles on Digital Assets and Private Law, International Institute for the Unification of Principles on the Use of Digital Assets as Security, European Law Institute, Vienna, 2022...

Private Law (UNIDROIT), 2023.

Regulation (EU) 2023/1114, of the European Parliament and of the Council, of 31 May 2023 on mmarkets in ccrypto-aassets, and amending Regulations (EU) No. 1093/2010 and (EU) No. 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937, OJ L 150, 9.6.2023, 40-205.

Regulation 2022/2065, of the European Parliament and of the Council, of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/ EC, OJ L 277, 27.10.2022, 1-102.

Revised Fiduciary Access to Digital Assets Act 2015 (USA).

Taxonomy of Llegal Iissues Rrelated to the Digital Economy, United Nations Commission on International Trade Law, Vienna, 2023

Uniform Access to Digital Assets by Fiduciaries Act 2016 (Canada).

Uniform Electronic Wills Act (UEWA).

Legal Cases

A-G of Hong Kong v Chan Nai-Keung, 1987, 1 WLR 1339, 1987, 3 BCC 403.

AA v Persons Unknown & Ors, Re Bitcoin, 2019, EWHC 3556 (Comm).

Allgemeine Versicherungs-Gesellschaft, Helvetia v Administrator of German Property, 1931, 1 KB 672.

Armstrong DLW GmbH v Winnington Networks Ltd, 2012, EWHC 10 (Ch), 2013, Ch 156.

BGH, Judgment of 12 July 2018 – III ZR 183/17.

BGH, Order of 27 August 2020.

ByBit Fintech Ltd v Ho Kai Xin, 2023, SGHC 199.

Colonial Bank v Whinney, 1885, 30 Ch D 261, 38.

Copytrack Pte Ltd v Wall, 2018, BCSC 1709

Director of Public Prosecutions v Briedis & Anor, 2021, EWHC 3155 (Admin).

Fairstar Heavy Transport NV v Adkins [2012] EWHC 2952 (TCC).

Fetch.ai v Persons Unknown, 2021, EWHC 2254 (Comm), 2021, 7 WLUK 601.

In re Ellsworth No. 2005-296, 651-DE (Mich Prob Ct 2005).

In re Ellsworth, No. 2005-296, 651-DE (Mich. Prob. Ct". 2005).

In re Request for Order Requiring Facebook, Inc. to Produce Documents and Things 923 F.

Ion Science v Persons Unknown 21 December 2020 (unreported).

Janesh s/o Rajkumar v Unknown Person ("CHEFPIERRE"), 2022 SGHC 264.

National Provincial Bank v Ainsworth, 1965, AC 1175, 1248.

Quoine Pte Ltd v B2C2 Ltd, 2020, SGCA(i) 02; CLM v. CLN and others, 2022 SGHC 46.

Re Celtic Extraction Ltd, 2001, Ch 475, 2000, 2 WLR 991.

Re Gatecoin Ltd (in liquidation), 2023, HKCFI 914; ASIC v Web3 Ventures Pty Ltd, 2024, FCA 64.

Ruscoe v Cryptopia Ltd (in Liquidation), 2020, NZHC 728.

Supp 2d 1204 (ND Cal 2012).

Swift v Dairywise (No. 1), 2000, 1 WLR 1177, 2000, BCC 642.

Tribunale di Bologna, 25 November 2021.

Tribunale di Milano, 9 February 2021.

Tulip Trading v Van Der Laan, 2023, EWCA Civ 83, 2023, 4 WLR 16.

Vorotyntseva v MONEY-4 Ltd (t/a nebeus.com) & Ors [2018] EWHC 2596 (Ch).

Your Response Ltd v Datastream Media Ltd, 2014, EWCA Civ 281, 2015 QB 41.

Your Response Ltd v Datateam Business Media Ltd, 2014, EWCA Civ 281.

Zi Wang v Graham Darby, 2021, EWHC 3054 (Comm).