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Review article

CONTEMPORARY PROPERTY (RIGHTS) CHALLENGES: DIGITAL ASSETS, ANIMALS AND HUMAN BODY PARTS*

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ABSTRACT

Contemporary general social development reflects its challenges in inducting into three fundamental categories: digital, green and health. Each of the three categories above has its civil (private) law issues, which primarily concern the concept of property itself. The paper focuses on key stakeholders from three mentioned categories: digital assets, animals and human body parts. Technology has had a significant impact on human life, and as a result, a person, during his/her lifetime, accumulates a huge number of digital assets. The most important questions concerning digital assets are: can they be treated as corporeal things (or incorporeal entities equalized with corporeal things), and what are the users' legal rights over these assets? To a certain extent, the mentioned question is transferred to animals as well, through various animal ethical and biocentric considerations. In a situation where animals also greatly influence human life, the question arises whether the conception of thing(s) in the context of animals has become inadequate. Can we still treat animals as property, or are new concepts needed to understand animals' legal status? Are new concepts also necessary for understanding the (civil) law status of human body parts? Increasing biomedical technological development has led to different ways of preserving human life and health. However, such preservation carries with it a priori various legal and bioethical questions that need to be answered in order to distinguish

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whether and under what conditions parts of the human body can be the objects of property rights. In observing the mentioned civil law and in certain situations, (bio)ethical and legal philosophical problems and questions, the authors approach analytically, comparatively and casuistically.

Keywords: *animals, bioethics, digital assets, human body parts, ownership, property (rights)*

1. INTRODUCTION

Rapid technological development and parallel problems related to the threat to the human environment and nature pose great challenges to civil and private law, with the increasing use of different interdisciplinary perspectives[1] in looking at the abovementioned problems. One of the branches facing the mentioned challenges is property law, where the entire concept of property and the normative and analytical elaboration of property rights are re-examined[2] through various entities. The entities that are treated in this regard in this paper are digital assets, animals and human body parts. Furthermore, in addition to different civil law doctrinal points of view, normative questioning is also done with the perspectives of bioethics and legal philosophy in the context of Croatian and comparative law.

Technology has had a significant impact on human life, and as a result, a person, during his/her lifetime, accumulates a huge number of digital assets. Today, most of what previously existed only in a physical form (photos, CDs, letters etc.) mainly exists in a digital form. Although the number of such assets, which an average person has, increases daily, the majority need help understanding their rights over these assets and what they can do with them. Currently, one universally accepted definition of these assets does not exist, which is understandable because they constantly change, they can be divided according to many different criteria and a large number of them does not fall only into one group. Precisely because of this, it is currently challenging to determine what rights the users have over these assets – are they their owners or something else; can they freely decide what to do with them or should they consider someone else's rights and interests? Moreover, the most important question concerning digital assets is: can they be treated as corporeal things (or incorporeal entities equalized with corporeal things) or something else?

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1 In recent writings, the mentioned concept of private law with the use of various interdisciplinary perspectives is called "the new private law". See: *The Oxford Handbook of the New Private Law,* in: Gold, A.S. *et al.* (eds.), Oxford University Press, 2021.

2 One of the comprehensive, recent normative and analytical elaboration of property rights in: Penner, J.E., *Property Rights, A Re-Examination*, Oxford University Press, 2020.

The controversies of the civil law thinghood concept are also present in the issue of the animal's legal status. Through the biocentric thought about animals as non-other participants in the living world, property law confronts new concepts of their legal status. Thus, certain countries' civil codes state that animals are not considered things or are sentient beings. Despite the mentioned provisions, the question arises whether animals can still be treated in (civil) legal transactions as things and as objects of property rights. In the context of animals, can we talk about a new concept of property, the concept of living property?

In the context of living property, it is also an interesting question, how are things that come from a (human) person as a living being legally treated? Specific civil codes have expressly taken a position regarding the above issue on the prohibition of disposing of one's own body if this violates the integrity of a person. Additionally, do we consider human organs and tissue *res in commercio* or *res extra commercium*, and how can the civil law concept of thinghood and property rights be translated to a person's integrity and body parts?

2. DIGITAL ASSETS: OBJECTS OF OWNERSHIP OR SOMETHING ELSE?

Today, there is still no universally accepted definition of digital assets.[3] Defining digital assets is problematic because this term encompasses many different entities. When digital assets are categorized according to various criteria, many of them will not fall in only one category, but will have characteristics of several of them.[4] However, defining and cataloging digital assets is important, because that is the first step in determining people's rights over them. The discussion about a person's rights over digital assets and what they can do with them is significant, because almost all such assets have a certain value. For example, online bank accounts and cryptocurrencies have real monetary value; photos found in online albums have sentimental value; social networks have social value; written and visual material can have an intellectual value.[5] Therefore, it is extremely important to know which rights one has over these assets and whether they can be transferred and protected while a person that has those rights is still alive and *post-mortem*.

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3 Harbinja, E., *Digital Death, Digital Assets and Post-Mortem Privacy*, Edinburgh University Press, 2023, p. 5.

4 *Ibid*, p. 6.

5 Rycroft, G. F., *Legal Issues in Digital Afterlife*, in: Savin-Baden, M.; Mason-Robbie, V. (eds.), Digital Afterlife: Death Matters in a Digital Age, CRC Press, 2020, p. 130-131.

At this point, the authors will list only a few categorizations of digital assets, in order to show the variety of entities that this term encompasses.[6] Certain authors list digital assets as personal assets (stored on various devices or uploaded to different sites), social media assets (which include e-mail accounts as well), financial assets (bank accounts, Amazon and PayPal accounts, accounts on shopping sites etc.) and business accounts (patient and customer information).[7] Others mention virtual property (PayPal balance, cryptocurrencies, domain names, purchased digital content, game avatars, etc.), intellectual property (photos, literary works and other art), data about property (online financial accounts) and personal data (correspondence with other people, search history logs, geo tracking, music and video playlists, etc.).[8] The same authors have another (similar) categorization: intangible items (cryptocurrencies, domain names, music files, items purchased in online games, etc.); information about the property (online bank accounts); intellectual property (photos) and personal data (all of the data and meta data that do not fall into any of the previous three categories).[9] Another division is into access information (account numbers and log-in information), tangible digital assets (photographs, PDFs, documents, e-mails, online savings account balances, domain names, and blog posts), intangible digital assets ("likes" on Facebook, website profiles, and comments or reviews) and metadata ("data electronically stored within a document or website about the data's access history, location tags, hidden text, author history, deleted data, code, and more").[10] These are just some of the categorizations of these assets found in the literature, which were chosen to show some of the entities that digital assets encompass. Because of that, it is understandable that there is no one-size-fits-all solution when talking about what happens to digital assets and rights people have over them.[11]

Apart from the variety of entities that digital assets encompass, an additional problem associated with many of them is that online platforms control them and those assets are subject to rules dictated by those platforms.[12] For example, when

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6 Many authors have tried to define this term, with more or less success, see: Harbinja, *op. cit.*, note: 3, p. 5-10.

7 Cahn, N., *Post Mortem Life On-line*, 25 Probate & Property, 2011, p. 36-37.

8 Morse, T.; Birnhack, M., *Digital Remains, The Users' Perspective,* in: Savin-Baden, M.; Mason-Robbie, V. (eds.), Digital Afterlife: Death Matters in a Digital Age, CRC Press, 2020, p.111.

9 Birnhack, M.; Morse, T., *Digital Remains: Property or Privacy?*, International Journal of Law and Information Technology, Vol.30, No. 3, 2023, p. 7-14.

10 Haworth, S. D., *Laying Your Online Self to Rest: Evaluating the Uniform Fiduciary Access to Digital Assets Act*, University of Miami Law Review, Vol. 68, No. 2, 2014, p. 537-538.

11 Harbinja, E., *The 'New(ish)' Property, Informational Bodies, and Postmortality,* in: Savin-Baden, M.; Mason-Robbie V. (eds.), Digital Afterlife: Death Matters in a Digital Age, CRC Press, 2020, p. 93.

12 Banta, N., *Property Interests in Digital Assets: The Rise of Digital Feudalism*, 38 Cardozo Law Review, 2017, p. 1105-1108.

it comes to content on users' profiles or accounts that the user has created, the platform's terms and conditions usually state that the user retains ownership of intellectual property rights.[13] However, online platforms reserve a broad license to use said content.[14] Hence, even if users are considered copyright owners of the content they have created and uploaded on their profiles and accounts, their ownership will always be limited by platforms' licenses, because users cannot opt-out of a license clause.

Furthermore, many online profiles and accounts are used to communicate with other users. As was shown from earlier categorizations of digital assets, a portion of the content on those profiles and accounts comprises of personal data. That data is often comprised of information about users and anyone they communicate with. [15] So, the question arises: do users own such content as well, and if they do, can they do with it whatever they want, like with any other property? If personal data

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[13] Facebook Terms: „Some content that you share or upload, such as photos or videos, may be protected by intellectual property laws. You retain ownership of the intellectual property rights (things like copyright or trademarks) in any such content that you create and share on Facebook and other Meta Company Products you use." [https://www.facebook.com/legal/terms/update?ref=old_policy], Accessed 30 April 2023Google Terms: „Your content remains yours, which means that you retain any intellectual property rights that you have in your content. For example, you have intellectual property rights in the creative content you make, such as reviews you write. Or you may have the right to share someone else's creative content if they've given you their permission." [https://policies.google.com/terms?hl=en-US#toc-using], Accessed 30 April 2023.

[14] Facebook Terms: „… you grant us a non-exclusive, transferable, sub-licensable, royalty-free, and worldwide license to host, use, distribute, modify, run, copy, publicly perform or display, translate, and create derivative works of your content (consistent with your privacy and application settings). This means, for example, that if you share a photo on Facebook, you give us permission to store, copy, and share it with others (again, consistent with your settings) such as Meta Products or service providers that support those products and services. This license will end when your content is deleted from our systems." [https://www.facebook.com/legal/terms/update?ref=old_policy], Accessed 30 April 2023 Google Terms: „This license is: worldwide, which means it's valid anywhere in the world non-exclusive, which means you can license your content to others royalty-free, which means there are no monetary fees for this license." „This license allows Google to: host, reproduce, distribute, communicate, and use your content — for example, to save your content on our systems and make it accessible from anywhere you go publish, publicly perform, or publicly display your content, if you've made it visible to others modify your content, such as reformatting or translating it sublicense these rights to: other users to allow the services to work as designed, such as enabling you to share photos with people you choose our contractors who've signed agreements with us that are consistent with these terms, only for the limited purposes described in the Purpose section below" [https://policies.google.com/terms?hl=en-US#toc-using], Accessed 30 April 2023.

[15] This was the reason why the court of appeal in 2017 in Berlin refused to grant access to Facebook profile of a deceased girl, to her grieving parents – the reason was the protection of decedent's privacy, but also the privacy of all her contacts. *Berlin court rules for Facebook over grieving parents*, 2017, available at: DW, *Berlin court rules for Facebook over grieving parents*, 2017, [https://www.dw.com/en/berlin-court-rules-grieving-parents-have-no-right-to-dead-childs-facebook-account/a-39064843], Accessed 30 April 2023 (Parents were later granted access to their daughter's Facebook profile. However, the

is not considered to be an object of ownership, what is it than? For more about the legal status of personal data, see *infra*.

The very term "digital assets" implies that such entities are objects of ownership and rules related to tangible things should apply to them, by analogy.[16] However, this term includes many different entities, many of which could not be considered to be objects of ownership.[17] Therefore, authors will try to show that often, some other rules, other than the rules relating to ownership, are more suitable to be applied to various digital assets (for example, copyright and personality rights). When considering rights people have over digital assets, the discussion often turns to inheritance law. Since ownership and certain copyright components can be inherited, it would be logical to think that the same applies to digital assets considered to be objects of ownership and copyright. On the other hand, digital assets that are considered as privacy should not be inheritable, because, at least in Croatia, privacy is a strictly personal right that extinguishes after the death of its holder.[18]

However, this is not as straightforward as it sounds. On the one hand, a digital asset that could be considered as an object of ownership or copyright and therefore should be inheritable, will not always be so, because its inheritability does not depend on the user's will, but primarily on the will of an online platform.[19] For example, regardless of Facebook stating that users own content they put on their profile, access to the profile itself falls under the provisions of Facebook's terms and conditions. As a default rule, Facebook (like most other online platforms) will not normally allow heirs to access the decedent's profile. Therefore, they will not be able to benefit from what the deceased posted on his/her profile, although such content would otherwise be inheritable.[20] On the other hand, when it comes to right to privacy, in Croatia it is a non-inheritable right because it is strictly per-

authors believe that the decision of the court of appeal is important precisely for taking into account the privacy of all of the girl's contacts.).

16 Birnhack, M., Morse, T., *op.cit.*, note: 9, p. 14-15 .

17 Harbinja, *op. cit.*, note: 11, p. 92; Morse, Birnhack, *op.cit.*, note: 8, p. 108.

18 Klarić, P; Vedriš, M., *Građansko pravo*, Narodne novine, Zagreb, 2014, 105; Birnhack, M.; Morse, T., *op.cit.*, note: 8, p. 108.

19 Klasiček, D., *Digital Inheritance,* in: Barković, D. *et al.* (eds), IMR 2018: Interdisciplinary Management Research XIV. Faculty of Economics. Josip Juraj Strossmayer University of Osijek, 2018, p. 1056-1058.

20 Facebook is actually one of the few social networks that offer their users a couple of possibilities on what might happen to their profile and its content after they die. However, if a user has not decided on what will happen to his/her profile *post-mortem*, default rules will apply and heirs will not have access to that profile. See: [https://www.facebook.com/help/1568013990080948], Accessed 30 April 2023.

sonal, and all strictly personal rights extinguish after their holder dies.[21] Therefore, a person's privacy cannot be inherited nor can it be protected after a person death. Because of that, digital assets that are considered as privacy would not be inheritable and would not be protected *post-mortem*. However, some authors advocate that in case of such digital assets, the possibility to protect them should not end with the death of a person, but should be allowed even after it.[22] Authors call this a *post-mortem* privacy, and define it as "the right of the deceased to control his personality rights and digital remains post-mortem" (broadly), or "the right to privacy and data protection post-mortem" (narrowly).[23] The idea is that interests of an individual to decide what will happen to his/her data should be recognized and protected even after that person dies.[24] Since data on the internet can stay there forever, and can, at least theoretically, be accessed by anyone, this idea should not be discarded without further consideration.

This part will end with an analysis of three types of digital assets that many people have and some thoughts on what legal status might apply to them.

2.1. Social network and e-mail content

An often-quoted definition of social networks is the one given by danah boyd and Nicole B. Ellison who define social networks as "web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share connection, and view and traverse their list of connections made by others within the system".[25]

As was said earlier, the users control the content, but the account belongs to the platform. The content users put on social networks is diverse. They often created it themselves (user generated content[26]), but it could have also been created by someone else and shared or forwarded by a user. Accordingly, some of it could, under Croatian law, be considered copyrighted work. Photos that the user took and uploaded to his profile, their status and comments could sometimes be protected

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21 Klarić, P.; Vedriš, M., *op. cit.*, note: 18, p. 105.

22 Harbinja, *op. cit.*, note: 3, p. 61-78; Davey, T., *Until Death Do Us Part: Post-mortem Privacy Rights for the Ante-mortem Person*, (PhD. thesis, University of East Anglia, 2020, 12-13 [https://ueaeprints.uea.ac.uk/id/eprint/79742/1/TINA%20DAVEY.%20THESIS%20FINAL%20%281%29.pdf], Accessed 30 April 2023; Birnhack, M.; Morse, T., *op.cit.*, note: 8, p. 123.

23 Harbinja, *op. cit.*, note: 3, p. 15.

24 *Ibid*, p. 204.

25 Boyd, D.; Ellison, N. B., *Social Network Sites: Definition, History and Scholarship*, 13 J. Computer-Mediated Comm, 2007, p. 211.

26 Harbinja, *op. cit.*, note: 3, p. 85, 92.

as copyright according to Croatian Copyright and Related Rights Act (further: CA)[27] . Art. 14 of CA states: "An author's work is an original intellectual creation from the literary, scientific and artistic fields that has an individual character, regardless of the manner and form of expression, type, value or purpose" (translated by authors). In Croatia, no additional formalities are necessary, as conditions under which someone's work would be protected by copyright (e.g., fixation, publication or some other formalities).[28] In this regard, copyright law would protect a big portion of the content that users put or share on their profile, (in case it met the prerequisites set out in Art. 14). This content would, therefore, not be protected by the rules applying to ownership, in the sense ownership is considered in Croatia (like in other countries belonging to the civil law systems).

Some content on social networks could not fall into the category of content protected by copyright, but should not be considered an object of ownership either, because it consists of personal data and other information about the user and other people he/she communicated with.[29] Personal data is defined in Art. 4(1) of General Data Protection Regulation as: "...any information relating to an identified or identifiable natural person ('data subject'); (…) such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person".[30]

Regarding the legal status of personal data, the authors agree with the point of view that personal data should certainly be a legal object, but should not be an object of ownership.[31] Without a doubt, many rules relating to ownership and its objects could be applied analogously to personal data. For instance, a person who has rights over data, has the possibility to access, use, exclude others, transfer or delete data, which is the same as what an owner can do with objects of his/her ownership.[32]

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27 Copyright and Related Rights Act – further Copyright Act (CA), (Zakon o autorskom pravu i srodnim pravima), Official Gazette No. 111/21. For more on application of copyright to social networks see: Harbinja, *op. cit.*, note: 3, p. 92-96.

28 Henneberg, I., *Autorsko pravo*, Narodne novine, Zagreb, 1996, p. 56-57; This might be problematic in the UK and US because fixation and publication are prerequisites for copyright protection. Harbinja, *op. cit.*, note: 3, p. 93.

29 Harbinja, *op.cit.*, note: 3, p. 97.

30 Art. 4 of Regulation (EU) of the European Parliment and of the of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), OJ L119/1.

31 van Erp, S.; Swinnen, K., *The legal status of co-generated data with particular focus on the ALI-ELI Principles for a Data Economy and the rules on accession, commingling and specification*, Technology and Regulation, 2022, p.61.

32 *Ibid.*

However, the authors of this paper agree with those who believe that equalizing personal data to objects of ownership is not a good way to go.[33] The reason for this is very well explained in ALI-ELI Principles for Data Economy which state: "It is commonly held that such a regime would have the potential of suffocating the European data economy rather than boosting it, and given that consumers would readily contract away their ownership, very much as they are currently contracting away any other rights they have with regard to data, this is not likely to enhance consumer rights."[34] Also the Data Ethics Commission[35] in its Opinion states that, regardless of which party has contributed to generation of data, such contributions should not lead to that party's ownership over generated data, "but rather to data-specific rights of co-determination and participation, which in turn may lead to corresponding obligations on the part of other parties".[36]

It is important to note that, in order for data to be a legal object, it would need to be specified in a certain way. The ALI-ELI Principles state that data must be recorded in a machine-readable format and stored on any medium or be in transmission.[37] Although to be stored on a medium usually means to be stored on a physical carrier (USB) or by means of blockchain technology, for the purpose of this paper, personal data stored on someone's email or social network account (on a cloud) would also be considered to be specified enough.[38] Accordingly, authors agree that personal data should not be considered as an object of ownership and should, therefore, be protected under personal data protection regimes and/or as privacy (at least until it is recognized as a new legal object with its own set of rules).

E-mails are "messages transmitted and received by digital computers through a network. An e-mail system allows computer users to send text, graphics, sounds, and animated images to other users".[39]

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33 Opinion of the Data Ethics Commission, p. 11, available at: [https://www.bmj.de/SharedDocs/Downloads/DE/Themen/Fokusthemen/Gutachten_DEK_EN.pdf?__blob=publicationFile&v=2], Accessed 4 July 2023.

34 ALI-ELI Principles for a Data Economy – Data Transactions and Data Rights (further in the text: ALI-ELI Principles), p. 197, line 12 (Principle 29), available at: [https://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ALI-ELI_Principles_for_a_Data_Economy_Final_Council_Draft.pdf], Accessed 4 July 2023.

35 Daten Ethik Kommission, Engl website available at: [https://www.bmi.bund.de/EN/topics/it-internet-policy/data-ethics-commission/data-ethics-commission-node.html], Accessed 4 July 2023.

36 Opinion of the Data Ethics Commission, p. 9.

37 van Erp, Swinnen, *op. cit.*, note:, p. 61-63¸ ALI-ELI Principles, Principle 3, 1, a.

38 van Erp, Swinnen, *op. cit.*, note:, p. 62, 63¸ 64; ALI-ELI Principles, Principle 3, 1, b; Principle 3, Illustration 9, 11, etc.

39 Britannica, [https://www.britannica.com/technology/e-mail], Accessed 30 April 2023.

With e-mail content, the situation is similar to that of social networks. As with content on social networks, a big part of the content contained in e-mails and its attachments is also copyrighted work and can be protected as such.[40] This especially applies to attachments that often consist of various copyrighted works made by the user or others. When it comes to the text of an e-mail itself, it too could, sometimes, be considered as copyrighted "written linguistic work".[41] This type of work is in Croatian CA defined as the author's work expressed in written language.[42] However, with the e-mail itself, there is another possibility. Today, e-mails have often become a substitute for letters; so accordingly, their text could be protected as letters, using rules applicable to personality rights (right to privacy), as is the case with any other letter written on paper.[43]

Regarding the rest of the content of the e-mail, which consists of various information and personal data, the same applies as for such content on social networks - here also, that content would mainly consist of personal non-proprietary assets (personal data) and as such should be protected by rules applying to personal data and privacy.[44]

2.2. Cryptocurrencies

Cryptocurrencies are a type of currency that uses cryptography to enable electronic payments without an intermediary bank or financial institution.[45] In Croatia, cryptocurrencies are not a legal means of payment nor are they considered a foreign currency.[46] In accordance to the definition of electronic money, (Art. 3(7) of the Electronic Money Act[47]) cryptocurrencies are not electronic money and

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40 Harbinja, *op. cit.*, note: 3, p. 168-176.

41 According to Art. 14/2 of the Copyright Act.

42 Henneberg, *op. cit.*, note: 28, p. 59.

43 VSH Rev 12/80, 14.5.1980, „Pisac pisma koje nije književno djelo zaštićen je od neovlaštenog objavljivanja njegova pisma ali tu se ne radi o zaštiti autorskih prava već o zaštiti osobnih prava. Autorsko-pravnu zaštitu imaju samo pisma koja ispunjavaju kriterije koji se traže za književna djela." [https://www.iusinfo.hr/sudska-praksa/ARHSE201G1980VS015158RHR], Accessed 30 April 2020 (Translated by authors: The writer of a letter that is not a literary work is protected from unauthorized publication of his/her letter, not according to the rules concerning copyright protection, but personal rights protection. Only letters that meet the criteria required for literary works have copyright protection.).

44 Harbinja, *op. cit.*, note: 3, p. 177-178.

45 Carr, D., *Cryptocurrencies as Property in Civilian and Mixed Legal Systems*, in Fox, D., Green S. (eds), Cryptocurrencies and Private Law, Oxford University Press, Oxford, 2019, p. 179.

46 Bodul, D., *O ovrsi na kripto imovini ili o jednoj pravnoj praznini?*, Zbornik radova s VIII. međunarodnog savjetovanja: „Aktualnosti građanskog procesnog prava - nacionalna i usporedna pravnoteorijska i praktična dostignuća" 2022, p. 212.

47 Electronic Money Act (Zakon o elektroničkom novcu), Official gazette No. 64/18, 114/22.

they are not a payment service (according to the provisions of Article 4 of the Act on Payment Transactions).[48] Regarding categorizing cryptocurrencies, it should be noted that the position on their legal status is not uniform in other countries – some countries consider it an asset, some a product, and some a financial instrument.[49]

Because of some of the characteristics of cryptocurrencies, the authors believe that they are, perhaps, the closest to what could be considered an object of ownership, of all the other digital assets discussed in this paper. Regardless, it is still quite controversial whether traditional rules pertaining to ownership can apply to cryptocurrencies.[50] However, what is certain is that privacy rules are not suitable to be applied and especially not copyright rules.[51]

The biggest problem with equating cryptocurrencies with physical objects of ownership is that they are intangible, like all other digital assets.[52] However, the authors here believe that intangibility alone should not be too great an obstacle to equating cryptocurrencies with objects of ownership. For example, in Croatia, certain intangible entities are legally equated with things, as material parts of nature. Something similar exists in other legal systems as well.[53] For instance, in Croatia, dematerialized shares were, although in a digital form, equated with things.[54] The same applies to a co-owner's share and the right to build, which are also considered things.[55] Therefore, the authors believe that intangibility should not be an obstacle when characterizing cryptocurrencies as objects of ownership.

In addition, in support of the point that these assets could be considered as objects of ownership, it must be noted that cryptocurrencies' "owners" have many typical ownership rights (the right to transfer, possess and exclude others, for example).[56] First, the "owner" of cryptocurrencies can transfer them to whomever

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48 Act on Payment Transactions (Zakon o platnom prometu), Official gazette No. 66/18.

49 Porezna uprava HR, mišljenje, [https://www.porezna-uprava.hr/HR_publikacije/ Lists/mislenje33/ Display.aspx?id=19252], Accessed 30 April 2023. Also see: Omelchuk, O.; Iliopol, I.; Alina, S., *Features of inheritance of cryptocurrency assets*, Ius Humani, Revista de Derecho, Vol.10, No. 1, p. 109, 114-116.

50 Carr, *op. cit.*, note: 45, p. 177.

51 Omelchuk, O.; Iliopol, I.; Alina, S., *op. cit.*, note: 49, p. 110.

52 *Ibid*, p. 180-181.

53 Carr, *op. cit.*, note: 45, p. 184.

54 Gavella, N. et al., *Stvarno pravo*, Narodne novine, Zagreb, 2017, p. 387.

55 Art. 37/3 and 280/2 of Ownership and Other Proprietary Rights Act – Ownership Act (Zakon o vlasništvu i drugim stvarnim pravima), Official Gazette No. 91/96, 68/98, 137/99, 22/00, 73/00, 129/00, 114/01, 79/06, 141/06, 146/08, 38/09, 153/09, 143/12, 152/14, 81/15, 94/17.

56 Similar Banta, *op. cit.*, note: 12, p. 1108-1113.

he/she wants.[57] Aside from mining, that is one of the ways of acquiring cryptocurrencies.[58] This person can transfer cryptocurrencies to anyone by authorizing transfer, or, he/she can leave these currencies to heirs, by giving them access to the electronic wallet in which cryptocurrencies are stored.

Second, the electronic wallet can be considered to be in the possession of its "owner" as well as cryptocurrencies stored there. That wallet and cryptocurrencies are not physical, so one might question the possibility of them being in someone's possession. However, in Croatian law, there are certain exceptions to the rule that a possession is only a "factual (physical) power over a thing"[59] For example, whatever was in a possession of a decedent is inherited by his/her heirs, at the moment of death (because of the principle of *ipso iure* inheritance that applies in Croatia). The decedent might have possessed certain things they borrowed or leased. The decedent did not own these things, they were merely in his/her control for a certain period. After the possessor's death, heirs inherit the possession, even though they might not be aware that the person has died and have no idea what they have inherited. Until they take over their inheritance, they will not be able to realize physical possession over those things. Nevertheless, their possession is protected by law, just like any other factual (physical) possession.[60] Therefore, it is not so farfetched to imagine that a person can possess something that only exists in a digital form, since we already allow the protection of a possession, when there is no physical power over the object.

Third, one needs to have a private key (a password) to access an electronic wallet. By keeping the private key secret, a person can exclude anyone from accessing their cryptocurrencies.[61] This is also one typical right of ownership. Because of all this, the authors believe it would not be such an overreach to consider cryptocurrencies as objects of ownership (maybe not in the traditional sense of the word, but surely as a new object with its own rules and characteristics).[62]

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57 Carr, *op. cit.*, note: 45, p. 184, 180.

58 Omelchuk, O.; Iliopol, I.; Alina, S., *op. cit.*, note: 49, p. 107.

59 Definition of a possession from art. 10 of Croatian Ownership Act.

60 This is sometimes called „ideal (spiritualized) possession" meaning imaginary possession, the one that is not factual (yet). Klarić, P.; Vedriš, M., *op. cit.*, note: 18, p. 201-202

61 For inheritance of cryptocurrencies, see Omelchuk, O.; Iliopol, I.; Alina, S., *op. cit.*, note: 49, p. 116-119.

62 Bodul, D.; Dešić, J., *Zakonsko reguliranje kriptoimovine - između želje i mogućnosti*, [https://informator.hr/strucni-clanci/zakonsko-reguliranje-kriptoimovine], Accessed 30 April 2023.

3. ANIMALS AS (LIVING) PROPERTY?

The increase in human awareness towards protecting the environment and nature forced man to reconsider his image and attitude towards other stakeholders of the environment and nature. Biocentric and animal ethical tendencies have forced society to develop sympathy and empathy for animals, but also more important - thought of them as non-other living beings. Animal law and ethics itself is becoming an increasingly topical area for numerous lawyers, philosophers, (bio)ethicists, anthropologists and sociologists.[63] However, the debate on animal law and animal rights is not widely represented in Croatian legal science and practice. Therefore, Croatian civil law legislation does not contain explicit provisions relating to the legal status of animals, nor are animals too much legally discussed in general. For example, neither the Civil Obligations Act[64] nor the Ownership Act does not expressly regulate or state how animals should be treated according to status in a certain civil law relationship.[65] Although today the legal status of pets and animals in general is questioned mainly within the framework of legal subjecthood/personhood in (civil) legal relations, Croatian civil law legislation and doctrine[66] are still oriented towards the objectification of the legal status of animals. Historically speaking, the status position of animals as things originates from Roman private law.

Thus, for example, in the context of subjects of civil law relations, Radolović refers to Vodinelić's writings on understanding animals as legal subjects.[67] According to Vodinelić, legal subjects are real "physical persons - people, legal persons - organizations and animals."[68] Vodinelić further explains that animals are legal objects

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63 The pioneers of the mentioned field are legal and moral philosophers such as Jeremy Bentham, Peter Singer, Tom Regan, David DeGrazia and Gary Francione. In this regard, two fundamental books by Singer and Regan stand out in particular: Singer, P., *Animal Liberation: A New Ethics for Our Treatment of Animals*, HarperCollins, 1975; Regan, T., *The Case For Animal Rights*, University of California Press, Berkley, 1983. In Croatian contexts, the doyen of animal law and ethics is considered to be the legal philosopher, theorist and animal ethicist from the University of Split, Nikola Visković, with his capital work: Visković, N., *Životinja i čovjek, Prilog kulturnoj zoologiji, Književni krug Split,* Split, 1996.

64 Civil Obligations Act (Zakon o obveznim odnosima), National Gazette No. 35/05, 41/08, 125/11, 78/15, 29/18, 126/21, 114/22, 156/22.

65 Although, for example, the legal status of an animal can be indirectly read and deduced from precisely defined legal provisions of real law where the term thing is used precisely in the context of animals. See, for example, Art. 106. paragraph 1. and Art. 132, paragraph 3. of the Ownership Act.

66 Although it is emphasized in the civil law doctrine that animals still need to be treated with consideration in view of the legal regulations on animal protection. See Gavella et al., *op. cit.*, note: 54, p. 509-510.

67 Radolović, A., *Subjekti građanskopravnog odnosa*, 52(1) Pravo u gospodarstvu, 3.

68 Vodinelić, V. V., *Građansko pravo, Uvod u građansko pravo i opšti deo građanskog prava*, Pravni fakultet Univerziteta Union u Beogradu, 2012, p. 325.

sui generis, just as much as legal subjects *sui generis*, i.e. both legal subjects and objects.[69] In this regard, animals, especially pets, should be considered a third type of legal subject (legal subjects *sui generis*) and, therefore, holders of certain subjective legal rights[70], such as personality rights. Still, they are also objects of rights, such as ownership rights, lease and other property rights.[71] The concept above for the continental-European civil law doctrine is problematic for two basic reasons. The first refers to the fact of the holders of subjective legal rights in general due to the application of will-interest theories[72] in continental-European civil law doctrine, where in the absence of a will determinant it is difficult to talk about the holder of subjective legal rights.[73] Another problem is reflected in the impossibility of separating subjective rights from legal subjectivity in continental European civil law doctrine, where only the legal subject is the bearer of subjective rights and *vice versa*.[74]

The legal status of animals, except within the general part and theoretical foundations of civil law, is largely reflected in property law, precisely because of the central issue that invokes the conflict between the issue of animals as legal subjects and the issue of animals as "classic" objects of property rights, primarily ownership right.[75] Although the Croatian civil law legislation does not explicitly mention the status of animals, numerous civil codes deny animals the status that in any way

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69 *Ibid*., p. 415.

70 On the similar track, the flexibility of the concept of legal personhood advocated by Finish legal philosopher Visa Kurki is based on elaborated claims about the separation of legal personhood and the entity's ability to be the holder of rights (persons-as-right-holders view). The aforementioned concept makes it easier for lawyers to discuss animal rights topics without any need for justification or elaboration of animals as legal persons or legal subjects, where only passive incidents of legal personhood should apply. In: Kurki, V.A.J., *Why Things Can Hold Rights*: *Reconceptualizing the Legal Person* in V. A.J. Kurki; Pietrzykowski, T. (eds.), *Legal Personhood: Animals, Artificial Intelligence and the Unborn*, Springer, Cham, 2017, p. 69-89.

71 Vodinelić, *op.cit*., note: 68, p. 415.

72 About will theories in, Vedriš, M.; Klarić, P., *op. cit.*, note: 18, p. 63 .
More details about will, interest and will-interest theories in civil law doctrine in older literature: Krneta, S, *Subjektivna prava*, in Enciklopedija imovinskog prava i prava udruženog rada, Vol III, Novinsko-izdavačka ustanova, Službeni list SFRJ, Belgrade, 1978, p. 186-201.

73 However, in foreign legal theory writings, the qualification of animals as holders of subjective rights is possible on the basis of the interest theories, whereby numerous important legal theorists advocate precisely for the bearer of legal (subjective) rights by animals. See for example: Kramer, M., *Do Animals and Dead People Have Legal Rights?,* 14(1) Canadian Journal of Law & Jurisprudence, 2001, p. 29-54.

74 More about "orthodox" and "bundle theories of legal personhood" in: Kurki, V.A.J., *A Theory of Legal Personhood*, Oxford University Press, 2019, p. 121-124.

75 The aforementioned debate was initiated a few decades ago by American legal philosopher and animal ethicist Gary Francione. See for example: Francione, G. L., *Animals—Property or Persons?,* in Sunstein, C. S.; Nussbaum, M.C. (eds.), Animal Rights: Current Debates and New Directions, Oxford University Press, 2005, p. 108–142.

enhances objecthood in the view of things. In those codes, in those provisions that refer to general provisions on things as objects of civil law relations, the provision that either explicitly states that animals are not things[76] or explicitly states that animals are considered so-called *sentient beings*.[77] However, certain commentators of the German and Austrian civil legislation state that the provisions on animals as non-things[78] do not imply anything other than a certain (animal) ethical awareness of animals as non-other living beings, not as legal subjects, and that in legal relations the provisions on things will apply, unless otherwise specified by special laws. [79] In this regard, animal legal objecthood does not seem to be disputed. Considering all the above, there is an obvious incoherence in the unique understanding of animal status. Such provisions and considerations bring a cluster of precisely defined questions that re-question the (civil) legal concepts of legal objecthood and subjecthood.

In most countries, including Croatia, it is not explicitly declared that animals are not things nor are they considered as sentient beings.[80] In Croatian property law, animals are categorized as wild, domesticated and domestic. Only wild animals live free in nature[81] and are *res nullius*[82]. Therefore, one acquires ownership over them

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76 These countries are, for example, Germany, Austria, the Netherlands, the Czech Republic, Moldova, Quebec (Canada).

77 These countries are, for example, Belgium, France, Spain, Colombia and the UK. It is important to emphasize that the provision on animals as sentient beings is contained in Art. 13 of the Treaty on the Functioning of the European Union (The Treaty of Lisbon), which expressly states that "the Member States shall, since animals are sentient beings, pay full regard to the welfare requirements of animals, while respecting the legislative or administrative provisions and customs of the Member States relating in particular to religious rites, cultural traditions and regional heritage." See: *Consolidated version of the Treaty on the Functioning of the European Union*, OJ C 326/47, 26.10.2012, p. 47–390.

78 Art. 285.a of the Austrian General Civil Code (*Allgemeines Bürgerliches Gesetzbuch* (ABGB), 1812) and Art. 90.a of the German Civil Code (*Bürgerliches Gesetzbuch*, BGB, 1896).

79 See: Boemke, B., Ulrici, B., *BGB Allgemeiner Teil*, Springer, Heidelberg, Dordrecht, London, New York, 2009, 437; Bydlinski, P., *Bürgerliches Recht*, *Band I, Allgemeiner Teil*, 4th ed, Springer, Wien, New York, 2007, p. 37, 22.

80 Rules on Croatian property law are based on Roman private law concept regarding animal status and various ways of acquiring ownership over them and have not wandered too far from their source. Gavella, N., *et. al., op.cit*. note: 54, p. 509-510.

81 According to the Nature Protection Act (Zakon o zaštiti prirode), National Gazette No. 80/13, 15/18, 14/19, 127/19, Art.9, Par.1/4: "wild species are those species that did not arise under the influence of man as a result of artificial selection (selection and breeding for the purpose of obtaining breeds of domesticated animals and varieties of cultivated plants) or genetic modification of hereditary material using modern biotechnology techniques".

82 According to the Ownership Act, Art.132, Par. 3, when in doubt, it is considered that the thing does not belong to anyone; however, it is considered that a domesticated animal is nobody's if it is absent on its own for forty-two days, and that a swarm of bees whose owner has not been buzzing for two days is nobody's.

through occupation.[83] Interestingly, in Croatian legislation, there is a difference between wild animals and game. The Animal Protection Act[84] and Nature Protection Act regulate wild animals, while the Hunting Act regulates game.[85]Although game is also considered *res nullius*, there are certain restrictions regarding the right to occupy it: occupation can be done only by those with a valid hunting license.[86] According to the Hunting Act, game is considered as a good that holds special interest for the Republic of Croatia and is, therefore, additionally protected.[87]

Regarding the acquisition of property rights over animals, Vodinelić states, for example, that 1. the animal is the object of property rights, but the above is limited by legal norms on animal welfare; 2. numerous legal obligations are imposed on the owners regarding the way of keeping, raising, transporting, maintaining health and working conditions with animals; 3. hereditary dispositions in favor of the animal are not possible, but upon conversion they become an order to the heir to take care of the animal 4. a series of special provisions on the special relationship between the animal (especially pets) and its owner preventing it from being broken, such as: the inability of animals to be subject to the right of lien, the right of retention, and the impossibility of confiscating the animal during forced execution on the debtor's property, ownership of them cannot be acquired by finding someone else's property, in the case of division of ownership communities (joint ownership, co-ownership, etc.) it will belong to the one who has better conditions for animal according to the rules on animal welfare, the rule of the lessee to keep an animal in the leased apartment if it does not excessively disturb third parties and the like.[88] It is important to point out that animals have personality rights (right to life, health, physical integrity, psychological integrity), but they do not have legal capacity for property rights, for obligations, they do not have business

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83 Gavella, N., *et. al., op.cit.*, note: 54, p. 509.

84 Animal Protection Act (Zakon o zaštiti životinja), National Gazette 102/17, 32/19.

85 Hunting Act, Official Gazette (Zakon o lovu) National Gazette No. 99/18, 32/19, 32/20.

86 More in: Pichler, D., *Novo stvarnopravno uređenje lovišta*, Zbornik Pravnog fakulteta Sveučilišta u Rijeci, Vol. 40, No. 1, 2019, pp. 481-498.

87 The Hunting Act, Art. 3, Par.1.

88 Vodinelić, V., *op. cit.*, note: 68, p. 416 .
On the same track, in comparative (anglophone) property law frames, Favre proposes a new, fourth (in addition to real property, personal property and intellectual property in the common law system) concept of property for animals. The so-called living property includes the interests of animals (following the interest theory of legal rights) and in every (civil) legal relationship, the following criteria and rights should be taken into account in favor of the animal: "1. Not to be held for or put to prohibited uses.; 2. Not to be harmed; 3. To be cared for; 4. To have living space; 5. To be properly owned; 6. To own property; 7. To enter into contracts; 8. To file tort claims." In: Favre, D., *Equitable self-ownership for animals*, Duke Law Journal, Vol. 50, No. 2, 2000, pp. 473-502; Favre, D., *Living Property: A New Status for Animals Within the Legal System,* Marquette Law Review, Vol. 93, No. 3, 2010, p. 1021-1070.

and delict capacity, nor the capacity to be an heir or a testator.[89] Further challenges of the issue of animal legal subjecthood in civil law relations will be largely reflected in the possibility of separating the concept of legal subjecthood from the concept of subjective rights, whereby it will be possible to freely talk about animals as holders of subjective rights, without any implication of their legal subjecthood.[90]

4. PROPERTY IN HUMAN BODY PARTS

Technological progress in biomedicine has enabled various ways of transplanting parts of the human body, with the ultimate goal of saving and preserving human life and integrity. However, every biomedical technological development leaves a large number of legal, but also moral and ethical issues that must be validly elaborated for legal relations to function smoothly. In connection with the previous chapter on animals, the real example is precisely the process of xenotransplantation[91] (transplantation of organs and tissue of animal origin), in which the concepts of human rights and animal rights clash, but also the issue of the patient's informed consent, the emergence of new epidemics, even the emergence of new creatures, the so-called chimeras.[92]

However, when it comes to the question of parts of the human body, first of all it is necessary to clarify whether it is possible and in what way to dispose of parts of the human body. Any kind of property disposition of human body parts invokes a preliminary question about property rights over human body parts. The issue

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89 *Ibid.*

90 In this regard, in certain legal theory writings, the concept of "things with rights" is mentioned, which enables animals to exercise their fundamental rights in every (civil)nlaw relationship, without the need to raise the question of their subjecthood *a priori*. See: Kurki, *op. cit.*, note: 70, p. 49-68.

91 Although the process of xenotransplantation is not yet medically or legally established, the Croatian Act on Medically Assisted Fertilization (Zakon o medicinski potpomognutoj oplodnji) National Gazette 86/12, Art. 36, states that: "(1) In the process of medically assisted fertilization, the following is prohibited: … 2. fertilize a female ovum with a sperm cell of any other species than a human sperm cell or an animal ovum with a human sperm cell, 3. change the embryo by transplanting other human or animal embryos, 4. introduce human gametes or human embryos into an animal, 5. introduce animal gametes or animal embryos into a woman."

92 So, for example, according to the Directive 98/44/EC, "processes to produce chimeras from germ cells or totipotent cells of humans and animals" (38) are considered immoral, thus excluding the patentability of such procedures." See: *Directive 98/44/EC of the European Parliament and of the Council of 6 July 1998 on the legal protection of biotechnological inventions*, OJ L 213, 30.7.1998, pp. 13–21.
In addition to the legal status issue of animals, the status of chimeras is also highly questionable, especially in the context of the concept of legal personhood and legal rights, whereby the process of xenotransplantation is a kind of intersection between the issue of animal rights and the issue of transplantation of the human body parts. See more in: Pietrzykowski T., *Personhood Beyond Humanism-Animals, Chimeras, Autonomous Agents and the Law*, Springer, Cham, 2018.

of property rights (primarily the ownership right) over human organs is not only an interesting legal-doctrinal issue, but also a legal-philosophical and bioethical one.[93] This is not an exclusively civil law understanding of the institution of ownership, it is a matter of a normative and bioethical concept of whether the human body can even be considered the subject of property rights and whether parts of the human body can be considered things during life, but also after a person's death.[94] Am I the owner of my body? Can a body be the object of the ownership right? When talking about parts of the human body, it is necessary to emphasize that any civil law discussion must also follow the special regulations that apply to parts of the human body. For example, in the Republic of Croatia, a special regulation regulates the transfer/transplantation of organs[95], tissue[96], blood[97] and sex cells. [98] The paper will pay special attention to organs and tissue whose transplantation is very common in medical practice. [99]One of the fundamental questions in any further (civil) law relationship is whether parts of the body can be considered objects (things) in the legal context and objects of property rights? The biggest challenges of human body parts may be hidden in the abovementioned question. Every unlimited right of ownership over parts of the human body causes new social modalities, such as the buying and selling of human organs and tissue (which

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93 See more about the mentioned issue in: Campbell, A. V., *The Body in Bioethics*, Routledge-Cavendish, 2009.

94 More in: Wall, J., *Being and owning : the body, bodily material, and the law*, Oxford University Press, Oxford, 2015.; Fabre, C., *Whose body is it anyway?*, Justice and the integrity of the person, Clarendon Press, Oxford, 2009., and in: Ivančić-Kačer, B., *Građanskopravni aspekti transplantacije dijelova ljudskog tijela: doktorska disertacija*, Zagreb, 2013, pp. 52-76.

95 Act on Transplantation of Human Organs for the Purpose of Treatment (Zakon o presađivanju ljudskih organa u svrhu liječenja), Official Gazette No. 144/12.

96 Act on the Use of Human Tissue and Cells (Zakon o primjeni ljudskih tkiva i stanica) Official Gazette No. 144/12.

97 Act on Blood and Blood Products (Zakon o krvi i krvnim pripravcima) Official Gazette No. 79/06, 124/11.

98 Act on Medically Assisted Fertilization (Zakon o medicinski pomognutoj oplodnji), Official Gazette No. 86/12.

99 Organs and tissue have been protected by the same regulation in Croatian medical law for many years, but it should be emphasized that these are quite different procedures. The differentiation of the aforementioned procedures is best explained by the breakdown of the Act on the Removal and Transplantation of Human Body Parts for the Purpose of Treatment (Zakon o uzimanju i presađivanju ljudskih organa u svrhu liječenja) Official Gazette, No. 177/04 and 45/09, 144/12, 144/12) into two separate acts: Act on the Transplantation of Human Organs for the Purpose of Treatment and Act on the Use of Human Tissue and Cells. In medical practice, organ transplantation is a much more frequent procedure, and organ transplantation mainly refers to the transplantation of the so-called "solid organs", such as kidneys, heart, liver, lungs, intestines and pancreas. Other forms of organ transplantation require specialized procedures and are mainly related to skin, cornea and bone marrow transplantation. In: Barbić, J.; Zibar, L., *Ethical principles of organ transplant treatment,* in: Fatović-Ferenčić, S; Tucak, A., (ed.), Medical ethics, Zagreb: Medicinska naklada, 2011, 2 p. 3.

is the case in the Islamic Republic of Iran), the manipulation of gametes in the form of new forms of surrogate parenthood or even the appearance of surrogate grandparents. [100]

In certain systems, there are specific regulations where the ownership of the human body is completely or partially limited. Thus, in the countries of the common law system, the rule of so-called *no property* (*rule*) [101], according to which the human body cannot be the subject of property rights[102], so it cannot be disposed of in a will, regardless of the deceased person's testamentary freedom.[103] However, according to certain authors, the system that completely prohibits market access, that is, the sale and purchase of human body parts, is outside of the legal principles of obligations and property law in which such restrictions do not exist.[104] This very fact can be confusing when it comes to the question of ownership of the body and its parts, because it would mean that if someone is the absolute owner of his body and organs, he can absolutely dispose of it and sell his own body parts, which is not legally allowed in many countries.[105] But people cannot be considered things

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100 About "babies as property" in: Dickenson, D., *Property in the Body: Feminist Perspectives*, Cambridge University Press, 2017, pp. 65-87.

101 Namely, common law legal systems during the 17th century gave birth to the rule that there is no property in relation to the human body ("*no property in the human body*"). The rule originally comes from Coke's Institutes of the Laws of England from 1664, where it was prescribed that "the burial of the deceased... is not the property of anyone" (lat. *nullius in bonis*, engl. *the property of no one*) and that it belongs to the jurisdiction of the church. But the Anglo-Saxon courts have since made exceptions to the so-called no property rule (e.g. Bazley v Wesley Monash IVF Pty Ltd [2010] QSC 118) which brought additional uncertainty in dealing with the said issue. Wall emphasizes that the result of all this is the fact that the legal status of parts of the human body is still indeterminate and unclear; Wall, *op. cit.*, note: 94, p. 1-2; Nedić, T., *Bioetički aspekti presađivanja organa*, Doctoral disertation, Pravni fakultet u Osijeku, Osijek, 2022, pp. 180-188.

102 Although certain authors refer to the "uncertain origins" of the 'no property' rule and its unsustainability. See: Quigley, M., *Self-Ownership, Property Rights, and the Human Body, A Legal and Philosophical Analysis*, Cambridge University Press, 2018, p. 56.

103 Mimnagh, L.M., *The Disposition of Human Remains and Organ Donation: Increasing Testamentary Freedom While Upholding the No Property Rule*, 7 Western Journal of Legal Studies, 2017, ISS. 1, Art. 3. Also: Hardcastle, R., *Law and the Human Body: Property Rights, Ownership and Control*, Portland: Hart Publishing, Hardcastle, 2007.

104 More in: Dunham IV, C.C., *Body Property: Challenging the Ethical Barriers in Organ Transplantation to Protect Individual Autonomy*, 17 Annals of Health Law, 2008, pp. 39-65; Nedić, *op. cit.*, note: 101, pp. 180-188.

105 For example, in Italian Civil Code, Codice Civile 2023Testo del Regio Decreto 16 marzo 1942, n. 262 aggiornato con le modifiche apportate, da ultimo, dal D.L. n. 19/2023, Art. 5 or, for example, the Croatian medical legislation (Art. 8 of the Act on Transplantation of Human Organs for the Purpose of Treatment and Art. 8 of the Act on the Use of Human Tissue and Cells). On a similar track: Wagner, D., M., *Property Rights in the Human Body: The Commercialization of Organ Transplantation and Biotechnology*, 33 Duquesne Law Review, 1995, pp. 931-958; Nedić, *op. cit.*, note: 101, pp. 180-188. On the other hand, according to the Art. 6 of the Directive 98/44/EC "inventions shall be considered

in the physical sense, but exclusively as beings that attract moral attention. In a certain way, the human body can be regarded as an object (as a "complex combination of several things"), but more importantly, as a subject (attracting moral attention as mental and spiritual beings). Aramini thus states that the extremist understanding of body ownership, according to which the body is understood as something that can be disposed of arbitrarily ("the body is only mine and I use it as I like, even if I sell it for profit"), has no justification. [106] But there is no justification either an opinion according to which the body is a thing that ends in death, as a biological understanding of the body, because the value of the human person is in the inseparableness of his physical dimension from the spiritual one.[107]

One of the most important things that Aramini emphasizes is reflected in the principle of autonomy and the principle of defending bodily life. Thus, Aramini outlines the principle of autonomy in the form of the human body as non-disposable human property, not that his body is at any disposal.[108] Concerning the principle of the defense of physical life, Aramini's deontological and Kantian[109] (concerning the second principle of Kant's categorical imperative) points out that man is "always an end (purpose) and cannot be a means, and that in relation to the giver and the recipient, both should be considered ends in themselves, and never

unpatentable where their commercial exploitation would be contrary to *ordre public* or morality" also stating that "the human body, at the various stages of its formation and development, and the simple discovery of one of its elements, including the sequence or partial sequence of a gene, cannot constitute patentable inventions" (Art.5), but that patentable inventions may refer to "an element isolated from the human body or otherwise produced by means of a technical process, including the sequence or partial sequence of a gene … even if the structure of that element is identical to that of a natural element." In the aforementioned provision, it is evident that a separate "element" of the human body can be considered a patent. However, this is not absolute and is subject to the criterion evaluation of public order and morality. In this regard, Art. 6. expressly states that the following cannot be patented: "a) processes for cloning human beings; (b) processes for modifying the germ line genetic identity of human beings; (c) uses of human embryos for industrial or commercial purposes; (d) processes for modifying the genetic identity of animals which are likely to cause them suffering without any substantial medical benefit to man or animal, and also animals resulting from such processes."

106 Aramini, M., *Uvod u bioetiku*, Kršćanska sadašnjost, Zagreb, 2009, pp. 264, 266.

107 *Ibid.*

108 The above is an excellent argument against those arguments based on the fact that the ban on commercialization violates the principle of autonomy, such as Fabre's in: Fabre, *op.cit.*, note: 94, pp. 126-152; Aramini, *op. cit.*, note: 106, p. 226. The above is based on Kant's view of individual autonomy.

109 "Man cannot dispose over himself, because he is not a thing. He is not his own property - that would be a contradiction; for so far as he is a person, he is a subject, who can have ownership of other things. But now were he something owned by himself, he would be a thing over which he can have ownership. He is, however, a person, who is not property, so he cannot be a thing such as he might own; for it is impossible, of course, to be at once a thing and a person, a proprietor and a property at the same time. (27:387)" Kant, I., Lectures on Ethics, Cambridge University Press, 1997, p. 157.

by means for each other."[110] One of the main questions here is precisely the status of the parts of the human body that are separated from the body, and the question of whether they still attract the moral attention and respect given to the human person and his body as a whole. The above situation is elaborated in continental-European civil law doctrine.

Unlike the Anglo-Saxon one, which gives primacy to precedents, the continental-European legal system contains a legal doctrine that is given great importance. All of the above from a legal-philosophical and bioethical point of view, leads to the issue of separable parts of the human body as objects of property rights, which is not expressly regulated by civil law legislation, and therefore the civil law (property law) doctrine comes to the fore. The preliminary question that arises in this regard is whether we can unconditionally consider a part of the human body as a thing? So Kačer and Pivac sensibly warn that "it is more than clear that the human body is neglected and under-normed in the current civil law norms (primarily in the Ownership and Other Proprietary Rights Act), which *de lege ferenda* should change."[111] For example, the Italian Civil Code in Art. 5. states that "acts of disposal of one's own body are prohibited if they cause a permanent reduction of bodily integrity or if they are otherwise contrary to the law, public order or morality." Provisions on limited disposal of parts of the human body do not exist in Croatian civil legislation, but The Act on Transplantation of Human Organs for the Purpose of Treatment (art. 8) and The Act on the Use of Human Tissue and Cells (art. 7) state that "it is forbidden to give or receive any kind of financial compensation for the taken tissue, and to obtain other financial benefits", except in cases of: 1. "compensation to living donors for lost earnings or any other justified costs caused by taking tissue or related to necessary medical examinations, 2. justified fees for the necessary health or technical services provided in connection with tissue collection, 3. compensation in the event of excessive damage resulting from tissue collection from a living donor."

It is not disputed that inseparable parts of the (living) human body cannot be considered things because they do not meet all the conditions of natural and legal criteria, but the issue of property rights over parts of the human body refers

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110 Aramini, *op. cit.*, note: 106, p. 254 The above is also based on Kant's view of the means and ends of a human being.

111 Kačer, B., Pivac, D., *Podjele stvari i pravno značenje tih podjela (u Zakonu o vlasništvu i drugim stvarnim pravima), Ljudsko tijelo, Zakon o vlasništvu i drugim stvarnim pravima i Zakon o zemljišnim knjigama,* 1997.-2017., in Kačer, B. (ur.) Hrvatsko stvarno pravo *de lege lata* i *de lege ferenda*, Inženjerski biro, Zagreb, 2017, pp. 122-151.

exclusively to parts of the body separated from the human body[112] and the body of a deceased person. [113] As far as separate parts of the body and substitutes of natural and artificial origin are concerned, in the Croatian civil law doctrine, it is considered that all conditions are met and that they should be legally recognized as things. [114] Parts of the human body can be classified as things limited in legal transactions, movable, indivisible and non-consumable things. Whether parts of the human body can be labeled as replaceable can be labeled controversial. Irreplaceable things come into legal transaction as a strictly defined individuality, such as an artistic painting or a fashion creation. A work of art is unique and has no substitute. If, for example, a person is transplanted with an organ that the body rejects, the same person can be re-transplanted with another organ of the same type and properties, whereby organs can be classified as replaceable things, regardless of their own specificity.[115] When the organ or tissue has not yet been transplanted to the recipient, either based on dereliction or based on donation, the organ is owned by the health institution where the organ or tissue was taken. Furthermore, it is quite clear that the moment the organ is transplanted to the recipient, it ceases to be the institution's property. It should be noted here that an organ or tissue can be considered a thing only when an institution owns it, and once it becomes part of another person's body, it ceases to be a thing. This is precisely where the specificity of the mentioned process is hidden, because a certain entity that was considered a thing becomes part of the personality of a legal subject. In any kind of breach, personality rights are violated in the form of the (personality) right to physical and psychological integrity.

Transplantation of parts of the human body represents a morally high procedure since, in addition to respecting the medico-legal and medical-ethical principle of

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112 Kačer, H., *Tijelopatija (Pravni status dijelova ljudskog tijela u (hrvatskom) građanskom pravu*, 1 Godišnjak – Hrvatsko društvo za građanskopravne znanosti i praksu, Zagreb, 2002, pp. 313-339.

113 In German civil law doctrine, the authors emphasize that "a human corpse is a thing, but of a special kind because there can be no right of ownership over it, which is also accepted in the Slovenian legal doctrine, where dispositions are not considered dispositions in the sense of real law, but in the sense of the exercise of personal rights" Larenz, K., Wolf, M., Allgemainer teil des Burgerlichen Rechts, Verlag C.H. Beck, Munich, 1997, p. 385. also: Erman, W., Handkommentar zum Burgerlichen Gesetzbuch, I. Band, 9. Aufl Ashendorff Munster, p. 194.; Juhart, M. *et al.*, *Stvarnopravni zakonik s komentarom*, Gv Založba, Ljubljana, 2004, p. 117..; From: Ivančić-Kačer, *op. cit.*, note: 94, p. 54-55., Here it is necessary to point out that the above can be concluded from the Croatian medical regulations as well because The Act on Transplantation of Human Organs for the Purpose of Treatment (art.9) and The Act on the Use of Human Tissue and Cells (art.5) states "when taking organs from a deceased person, it is necessary to act with due respect for the personal dignity of the deceased person and his family." Also: Vedriš, M., Klarić, P., *op. cit.*, note: 18, pp. 72-73.

114 *Ibid.*

115 Compare Nedić, *op. cit.*, note: 101, p. 191.

patient autonomy[116], many human lives are saved by taking healthy organs from a certain person. In addition to a living donor, taking organs from a deceased donor who must not be entered in the Register of Non-Donors is much more common in medical practice. Namely, the Republic of Croatia belongs to opt-out countries[117] where presumed consent is required when taking organs from the deceased donor. The stated means that organs are taken from those who did not expressly object to being a donor during their life after death.[118] This concept is the opposite of the so-called opt-in system for organ transplantation, where the express consent of the donor is required. [119] Although both concepts have their own (bio)ethical and legal advantages and disadvantages, the opt-out concept further expands the circle of organ and tissue donors and the number of organs and tissue. [120]

5. CONCLUSION

This paper aimed to examine whether important social determinants - digital assets, animals and human body parts - can be subsumed under the classical understanding of property and thus be the object of property rights. At this point, the aim of writing about rights over digital assets is to draw the reader's attention to this issue and make readers aware that: a) almost all of us have these assets, b) most of us are not aware what rules apply to them, and therefore, c) we, for the most part, have no idea what we can do with these assets. In this paper, the authors have scratched the surface of only three types of digital assets – social networks, e-mail and cryptocurrencies. Regarding most of the content on social networks and e-mail accounts, it would probably be unrealistic to consider them traditional property and apply property law rules. It might be more appropriate to apply

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116 See: Beauchamp, T. L.; Childress, J. F., *Principles of Biomedical Ethics*, Oxford: Oxford University Press, 2012, 101; Herring, J., *Medical Law and Ethics*, Oxford: Oxford University Press, 2016, pp. 8-14. Nikšić., S., *Načelo autonomije pacijenta u hrvatskom pravu*, Bioetika i medicinsko pravo: Zbornik radova 9. bioetičkog okruglog stola, Rijeka, 2008, pp. 163-171.

117 In addition to Croatia, the mentioned system is also present in most EU countries: Italy, France, Spain, Belgium, Poland, Austria, Switzerland, Sweden, Norway, Croatia, Slovenia.

118 In The Act on Transplantation of Human Organs for the Purpose of Treatment (art. 17. par. 1) and The Act on the Use of Human Tissue and Cells, state that organs and tissue from a deceased person may be taken for transplantation only if the donor did not oppose the donation in writing during his lifetime.

119 The opt-in system is present in countries such as Germany, Australia, Denmark and the USA, where in Denmark, however, there is a public debate about the transition to the opt-out system. See: A new organ donation system could save more lives, School Of Bussiness and Social Sciences, Aarhus University, [https://bss.au.dk/en/insights/samfund-1/2021/a-new-organ-donation-system-could-save-more-lives], Accessed 30 April 2023.

120 More about the same issue in: Usman Ahmad, M. et al., *A Systematic Review of Opt-out Versus Opt-in Consent on Deceased Organ Donation and Transplantation (2006–2016)*, World Journal of Surgery, 2019, pp. 1–11; Nedić, *op. cit*., note:101, pp. 109-114.

the provisions of copyright law, since much of that content can be considered copyrighted work. Also, the provisions concerning protecting personal data and privacy are applicable for a certain portion of such content. Regarding cryptocurrencies, the authors took the position that these digital assets are closest to the traditional concept of property because the one holding them can transfer them, possess and exclude others, which is generally associated with ownership. Although animals in civil law doctrine are mostly understood as things, with certain exceptions, it is evident that certain comparative legislation recognizes the legal status of animals that refers to non-things and sentient beings. The above shows that the classic concept of things and property is disappearing increasingly in the context of animals and that enabling certain new concepts (e.g. living property, modified subjecthood etc.) can contribute even more to preserving animal integrity, thus the environment and nature. It is also necessary to emphasize that the categorical intention to label animals as classic legal subjects has numerous obstacles. It is questionable how legally and socially acceptable and sustainable such labeling is. Parts of the human body can be considered property when they are separable and those body parts from a dead person whose corpse must be treated with piety and reverence. Their disposal cannot be unlimited and is determined by specific bioethical principles aimed at preserving the life and health of the donor, which is also accepted in certain civil and medical legislations. However, even such a designation is not final and may depend on a specific part of the body that is regulated by special legislation. Also, such a designation will encounter numerous challenges with the parallel development of biomedical engineering and technologies.

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