Comparative Law Review

VOLUME 14/2 – 2023

ISSN:2038 - 8993

COMPARATIVE LAW REVIEW
The Comparative Law Review is a biannual journal published by the
I. A. C. L. under the auspices and the hosting of the University of Perugia Department of Law.

Office address and contact details:
Department of Law - University of Perugia
Via Pascoli, 33 - 06123 Perugia (PG) - Telephone 075.5852437
Email: complawreview@gmail.com

Comparative Law Review is registered at the Courthouse of Monza (Italy) - Nr. 1988 - May, 10th 2010

COMPARATIVE LAW REVIEW VOL. 14/2

DIGITAL ASSETS AND PROPERTY: COMPARATIVE REMARKS FROM A CIVIL LAW PERSPECTIVE*

Ermanno Calzolaio

SUMMARY:

This paper reflects on one of the most relevant aspects of the so-called digital revolution that has invested contemporary societies and is transforming them in a profound way, consisting in the emergence of a de-materialized dimension of mobility of 'objects' that exist only electronically and in a process state, as entities susceptible to continuous mutation and transformation. It investigates the legal qualification of these new entities, adopting a comparative perspective, with particular regard to the civil law and the common law traditions. The 'proprietary' logic continues to appear as a key that is not easy to replace for configuring a relationship of belonging of the new digital entities. However, the difference between the continental and the common law models of property is at the origin of diverging outcomes in the case law of the various jurisdictions. The model of property accepted in the Anglo-American tradition seems more inclined to welcome digital entities within the realm of property.

I. INTRODUCTION: THE DE-MATERIALIZED DIMENSION OF OUR CONTEMPORARY WORLD

This work intends to reflect on one of the most relevant aspects of the so-called digital revolution that has invested contemporary societies and is transforming them in a profound way, consisting in the emergence of a de-materialized dimension of mobility-globality of 'objects' that exist only electronically and in a process state, as entities susceptible to continuous mutation and transformation.

The digital revolution has clear implications from a legal point of view, as it reaches the heart of the languages and techniques used by jurists. Data, cryptocurrencies, NFTs are all terms unknown until the recent past, but today familiar. Wanting to open the windows on this world in which everything has become mobile and digitalized, we soon come across a significant discovery. The initial euphoria that accompanied the development of the blockchain foreshadowed the birth of a world without law. At the basis of the famous expression 'code is law'[1] and then of the launch of the blockchain[2], there is precisely the idea of finally being able to free oneself from constraints and rigidities, because the technical infrastructures and software of the Internet would allow online negotiations to

* This work has been funded by the European Union - NextGenerationEU under the Italian Ministry of University and Research (MUR) National Innovation Ecosystem grant ECS00000041 - VITALITY - CUP E13C22001060006 contribution. It is intended for the essays in honour of prof. Rodolfo Sacco.

[1] The expression "code is law" was shaped by L. Lessig, *Code and Other Laws of Cyberspace*, New York, 1999. For a punchy critic see K. Yeung, *Regulation by Blockchain: the Emerging Battle for Supremacy between the Code of Law and Code as Law*, in *Modern Law Review*, 2019, p. 207.

[2] See the contribution *Bitcoin: A Peer-to-Peer Electronic Cash System*, probably drafted by a group of engineers under the pseudonym Satoshi Nakamoto, available at *https://bitcoin.org/bitcoin.pdf*.

be regulated autonomously and beyond any regulatory intervention, especially by the states.

Soon, however, reality called this claim into question, hand in hand with the appearance of several problems, which brought out the need to identify forms of protection for the owners of the new entities entered and circulating on the network, when, for example, they end up being dispersed in it, due to malfunctioning or fraudulent interventions. There are already many cases in which, almost in every legal system, judges have to deal with data, cryptocurrencies, NFTs, in a context characterized by the scarcity (if not the total absence) of legislative provisions[3].

The aim of this article is to investigate the legal qualification of these new entities, adopting a comparative perspective, with particular regard to the civil law and the common law traditions. The comparative approach is really unavoidable in order to have insights and suggestions in respect to a phenomenon having clear supranational outcomes. In fact, the new technologies open a truly unprecedented perspective of a 'space' - in which contracts are made, data are acquired, new 'goods' and services circulate, and torts are committed - that lies outside of a territory identified by boundaries, and therefore beyond specific legal orders, as is also the case for other emerging fields of legal studies, such as environmental law[4].

In both legal traditions the 'proprietary' logic continues to appear as a key that is not easy to replace for configuring a relationship of belonging of the new digital entities. However, the difference between the continental and the common law models of property is at the origin of diverging outcomes in the case law of the various jurisdictions. We will first move from a short outline of the different conceptions of property in the civil law and the common law legal traditions (§ 2), in order to catch the problems encountered in Italy, France and Germany in the qualification of the new digital entities (§ 3). We will then consider the situation in English law, where, despite the lively debate about the *tertium genus* within the articulation of personal property, the new digital entities are considered to be property, as it also happens in other common law countries (§ 4). The inclusion of digital assets within property opens the way to recur to the law of trust and its intriguing doctrines, such as constructive trust, totally ignored by the civil law systems (§ 5). At the end we will draw some comparative remarks, pointing out the relevance of the different models of property in the civil law and the common law legal traditions also in this field, being also at the origin of the difficulties encountered when undertaking regulatory initiatives in the national, European and supranational spheres (§ 6).

II. PROPERTY BETWEEN CIVIL LAW AND COMMON LAW.

As for the civil law, it is well known that, both in the definitions contained in the continental codes and in the systematic-conceptual system, property continues to be based

[3] For this remark, see K.F.K. Low, *Cryptoassets and the Renaissance of the Tertium Quid?*, in C. Bevan (cur.), *Edward Elgar Handbook on Property Law and Theory*, 2023, available at https://ssrn.com/abstract=4382599 or http://dx.doi.org/10.2139/ssrn.4382599.

[4] For this analogy see J.-S. Bergé, *The "datasphere" as a new paradigm of relationship between territories in law*, in *Rev. Bras. Polit. Publicas*, 2018, pp. II ss. About the role of comparison see L. Moccia, *Law Comparison 'Inner Worthiness'. The Example of Environmental Protection* in *Annuario di diritto comparato e di studi legislativi*, 2021, available at https://ssrn.com/abstract=4107438.

on the materiality of its object and characterized by absoluteness, fullness and exclusivity. The origins of this conception are commonly linked to the influence of Roman law and, in particular, to the distinction between corporeal things ("res corporales, quae tangi possunt") and incorporeal things ("quae tangi non possunt"), dating back to the *Institutiones* of Gaius (II century. A.D.). The first category includes land, slave, garments, gold, etc., while the second one includes rights such as the right of inheritance, the right to possess land (usufruct), the debts resulting from a right of obligation. However, the right of property is not included, because its relevance is linked to the relationship of confusion-identification with the material thing that constitutes its object in an exclusive way. In essence, property acts as a filter to distinguish things that exist only on the level of law, being its creations, from things in the material sense, which derive their legal qualification and relevance insofar as they are appropriable[5].

Thus, despite the basic ambivalence of the term "res" (as a physical entity susceptible to appropriation and as an intangible object owned by someone, having the nature of an asset as part of its patrimony), the corporality of the thing is placed in a one-to-one relationship with the commonly accepted notion of property right: on the one hand, the right is, so to speak, incorporated into the thing, in the sense that it is this that satisfies the subject's interest (and with this the property right is distinguished from other juridical situations) and, on the other hand, the right to property can only have corporeal entities as its object. The 19th-century model of property was built on these foundations, which in turn constitute the pivot on which the whole system of patrimonial rights is based, articulated in real rights and personal (or credit) rights. In particular, property is conceived as a subjective right of a patrimonial nature, an archetype of real right, which confers on its owner the classic prerogatives to use and exploit a corporeal thing. On the other hand, a personal right is nothing more than a relationship established between two subjects, on the basis of which the debtor is required to perform something against the creditor[6]. The difference between the two categories is clear: a personal right obliges the person through his patrimony, while a real right obliges its holder in his capacity and not a specific subject. Keeping this basic scenario in mind, the phenomenon of the dilatation of the objective sphere of property has indeed contributed to making clear that the nineteenth-century codes ran after the mirage (which soon revealed itself as such) to consider property monolithically, but it did not come to undermining its systematic-conceptual value, as a paradigm of individual rights and pivot of the articulation of property rights into absolute rights and relative rights, which still constitutes the deep plot on which the very architecture of private law is organised.

Therefore, when (private) law is confronted with the new technologies, the disorientation with respect to entities that elude any attempt to be classified within the traditional

[5] For a general introduction to the different models of property, see L. Moccia, *Forme della proprietà nella tradizione giuridica europea*, in L. Moccia, *Comparazione giuridica e prospettive di studio del diritto*, Padova, 2016, p. 19.

[6] In the words of R. Libchaber, *Biens*, in *Rep. Dr. Civil*, Paris, 2016 : « La propriété est ordinairement appréhendée comme un droit subjectif, de nature patrimoniale, et qui, en véritable archétype du droit réel, confère à son titulaire les trois prérogatives canoniques classiques que sont l'usus, le fructus et l'abusus d'une chose, considérée comme nécessairement corporelle ».

schemes and categories emerges: virtual entities, whose existence is linked to the fact that they are able to produce an income and claiming tools that ensure their belonging to their owner, or at least allow their value to be preserved.

On the other hand, in the common law model the term property does not have a single and precise meaning, which instead varies according to the context in which it is used[7]. It can designate a physically considered thing, the rights concerning the use and enjoyment of this thing, but also rights that are independent of a direct relationship with a physical thing, such as for example a debt. From the point of view of the systematic structure of the law of property, the absence of a correspondence with respect to property in the codified law systems emerges, since property designates the belonging of rights, so that both for immovable property and for movable property it is correct to say that the subject has a property right over them[8].

This difference may appear harmless, while instead it marks a distinction which brings out the different conceptual texture of the English model. It is inspired by a distinctly patrimonial conception of the relationships of belonging, referring not to things understood in a material sense, but to the rights that can be exercised over them and which, as they have patrimonial value, constitute an object of belonging. One of the most relevant consequences of this conception is that there can be more than one property right over the same thing. In this sense, the main distinction between real and personal property has little or nothing to do with the civil law distinction between real and personal rights. In the common law model, real property and personal property constitute distinct objects of property, while in the civil law tradition personal rights are outside the field of property. The brief remarks outlined in this paragraph now allow us to address more directly the attempts at the legal qualification of the new immaterial entities in the two legal traditions.

III. THE LEGAL QUALIFICATION OF THE NEW IMMATERIAL ENTITIES IN THE CIVIL LAW TRADITION.

Starting from Italian law, the issue has been addressed with reference to cryptocurrencies, but it is also proposed in similar terms for NFTs and, in general, for all the new immaterial entities in the web[9].

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[7] See the *leading opinion* by Lord Mance in *Akers v Samba Financial Group* [2017] UKSC 6: "As to what constitutes "property", this is always heavily dependent on context … - something can be 'proprietary' in one sense while also being nonproprietary in another sense" (n. 15). In *Kennon v Spry* [2008] HCA 56 the Court of Appeal affirmed: "the term 'property' is not a term of art with one specific and precise meaning. It is always necessary to pay close attention to any statutory context in which the term is used" (n. 89, *per* Gummow and Hayne JJ).

[8] "The common law of property is essentially about rights in things and the volume of rights that accompanies a particular type of proprietary interest" (M. Bridge-L. Gullifer-G. McMeel-K. F.K Low, *The Law of Personal Property*, 2nd ed., London, 2019, n. 4-002). In the same sense, W. Swadling, *Property: General Principles*, in P. Birks (eds.), *English Private Law*, vol. I, Oxford, 2000, n. 4.02.

[9] S. Capaccioli, *Criptovalute e bitcoin: un'analisi giuridica*, Milano 2015; N. Vardi, *"Criptovalute" e dintorni: alcune considerazioni sulla natura giuridica dei bitcoin*, in *Dir. inf. e informatica*, 2015, p. 443. See also E. Calzolaio, *La qualificazione del* bitcoin: *appunti di comparazione giuridica*, in *Danno e responsabilità*, 2021, p. 188. About the absence of a common notion of cryptocurrencies see B. Cappiello, *Cepet Leges in Legibus. Cryptoasset and Cryptocurrencies Private International Law and Regulatory Issues from the Perspective of EU and its Member States*, in *Dir. Commercio Internazionale*, 2019, p. 561.

A first perspective brings cryptocurrencies within the scope of the rules on pecuniary obligations and in particular to article 1228 of the civil code according to which if the sum due is fixed in a currency lacking legal tender, the debtor can pay in the legal currency at the exchange rate on the due date. The code does not offer a definition of currency and some argue that "currency not having legal tender in the State" includes both foreign currencies properly speaking, and currencies chosen by the parties. In this perspective, a cryptocurrency (which is obviously a "non-state" currency) falls within the scope of article 1228 of the Civil Code, so that the debtor discharges himself by paying with the same cryptocurrency deducted as an obligation, even if he "has the right" to pay in his legal currency[10].

This approach was confirmed by a judicial decision, in relation to a case in which the issue was to decide if the registered capital of limited liability company could be increased through the payment of cryptocurrencies. The Court of Appeal of Brescia recognized that cryptocurrencies have the nature of money, but it excluded the possibility to accept them as a part of the registered capital, given that their extreme volatility prevents the attribution of a precise value[11].

This shows that equating cryptocurrencies to money is far from easy, because unlike traditional or electronic money, they do not represent a right, but an asset which does not correspond to a passive voice in another's asset. For this reason, some argue that they should be considered as "goods", more precisely as "digital goods". This would be in line with the approach adopted by Directive 2018/843/EU, which marks an explicit recognition of virtual currencies as means of exchange, as such capable of being sold, purchased and exchanged. In this perspective, in short, cryptocurrencies would be "assets" in the legal sense falling within the broad notion referred to in article 810 of the civil code ("Goods are things that can be objects of rights").

Some decisions seem to confirm this view, such the one issued by the Court of Florence, stating that "cryptocurrencies (...) can be considered "assets" pursuant to article 810 of the Civil Code, as an object of rights, as now recognized by the national legislator, who also considers them, but not only, as a means of exchange (...)"[12].

However, even this theory is problematic, because cryptocurrencies are so immaterial as to be even evanescent, remaining widespread within a distributed architecture electronic communication network[13]. Furthermore, as in the generality of legal systems, also in Italy the attribution of exclusive rights on intangible assets responds to the principle of strict

[10] In this sense, M.F. Campagna, *Criptomonete e obbligazioni pecuniarie*, in *Riv. Dir. Civ.*, 2019, p. 183. According to others, cryptocurrencies are means of payment: G. Arcella-M. Manente, *Le criptovalute e le loro contraddizioni: tra rischi di opacità e di eccessiva trasparenza*, in *Notariato*, 2020, p. 23 and V. De Stasio, *Verso un concetto europeo di moneta legale: valute virtuali, monete complementari e regole di adempimento*, in *Banca, Borsa, Tit. Cred.*, 2018, p. 747.

[11] Corte app. Brescia, sez. I, decr. 24 ottobre 2018, in Società, 2019, p. 26, with comments by F. Murino, *Il conferimento di token e di criptovalute nelle s.r.l.* and F. Felis, *L'uso di criptovaluta in ambito societario. Può creare apparenza?*, ivi.

[12] Trib. Firenze, sez. fall., 18 gennaio 2019, n. 18 available at https://www.coinlex.it/wp-content/uploads/2019/01/Sentenza_Fallimento_Bitgrail.pdf.

[13] In this sense, R. Bocchini, *Lo sviluppo della moneta virtuale: primi tentativi di inquadramento e disciplina tra prospettive economiche e giuridiche*, in *Dir. inform. e informatica*, 2017, p. 27

typicity, so that the qualification in terms of intangible assets is at least questionable, in the absence of a specific legislation[14].

The picture that emerges in the light of the cases examined so far is somewhat uncertain. The Court of Florence brings cryptocurrencies under the category of intangible assets and states that, as such, the holder is the owner, since the deposit on the platform is configured as an irregular deposit (article 1782 of the civil code), which determines the transfer of ownership and the obligation of the depositary to retransfer the same amount of deposited assets. Given the default and the bankruptcy of the company, the protection of the cryptocurrency holders is very weak. It is of little use to qualify the relationship that binds the holder to cryptocurrencies in terms of 'ownership' if no consequence in terms of protection derives from this qualification. In fact, their 'owner' has nothing more than a personal right against the creditor, but which does not allow the 'things' that belong to him to be recovered from third parties.

It is significant that a similar outcome characterizes also the French experience. Called to establish their taxation regime, the *Conseil d'Etat* includes cryptocurrencies in the field of incorporeal movable property[15]. However, new difficulties arise when judges come to drawing concrete consequences from this qualification. For example in a case decided by the Court of Nanterre in 2020, a dispute arose between the parties to a bitcoin loan agreement, due to the non-payment of interest. The French judge held that the bitcoin is to be considered as a fungible and consumable thing, so that the loan agreement must be seen in the context of the rules on consumer loans. As a result, against the transfer of ownership of the lent bitcoins, the other party has the (contractual) right to obtain the return in kind of things of the same quality pursuant to article 1902 Civil Code[16].

The situation in German law is even clearer. The BGB recognizes the nature of goods only to corporeal objects (§ 90, "Sachen im Sinne des Gesetzes sind nur körperliche Gegenstände") and ownership can only be configured with respect to them. It follows that the transfer of digital entities cannot in any way be framed within the context of a transfer of property. Nor is it possible to recur to the analogical application mechanism of the rules on the transfer of ownership in the event of the assignment of rights under §§ 398 and 413 BGB, as the blockchain cannot be considered as a 'debtor'. Finally, recourse to the general rules on non-contractual torts and unjustified enrichment prove to be of little use, so that, in the absence of an intervention by the legislator, German law does not seem to offer concrete solutions[17].

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[14] V. Zeno-Zencovich, *Ten legal perspectives on the "big data revolution"*, in *Concorrenza e mercato*, 2016, p. 29: "From a civil law perspective, it is clear that exclusive rights on non-material entities tend to be a numerus clausus. Copyright, trademarks, patents and all that follows are protected (in the whole world) on the basis of legislative definitions and regulated procedures".

[15] *Conseil d'Etat*, 26 april 2018, n° 417809 ; see M. Collet, *Le bitcoin devant le Conseil d'État*, in JCP, éd. G, 2018, p. 743.

[16] Trib. Nanterre, 6e ch., 26 february 2020, n. 2018F00466 ; see E.A. Caprioli, *La nature juridique du Bitcoin enfin précisée*, in *Communication-Commerce Electronique*, 2020, n. 6, p. 1 and J. Moreau, *Lorsque les juges du fond se penchent sur la nature juridique du* bitcoin *et des prêts y relatifs*, in *AJ Contrat*, 2020, p. 296.

[17] For more details, see S. Omlor, *Digital ownership of blockchain tokens: a comparative law guideline*, in E. Nordtveit (cur.), *The Changing Role of Property Law. Rights, Values and Concepts*, London, 2023, p. 130, esp. p. 137. See also E. Rizos, *The Nature of Rights upon Cryptocurrencies*, in T.E. Synodinou-P. Jougleux- C. Markou-T. Prastitou-Merdi (eds.), *Internet Law in the Digital Single Market*, Cham, 2021, p. 605.

IV. THE DIGITAL ASSETS AS PROPERTY IN THE COMMON LAW.

In the common law tradition, the characteristics of the property model that we evoked previously makes it easier to bring the new digital entities back into the sphere of personal property. Historically this category was formed in a rather erratic way and it is articulated on the distinction between choses or things in possession (corporeal things) and choses or things in action (incorporeal things). Among the choses in possession are included all objects capable of being possessed and therefore "tangible, moveable and visible"[18], while choses in action are not only intangible assets (patents, intellectual creations, goodwill, etc.), but also debts and, in general, any right having patrimonial value (and, in this sense, 'proprietary'), provided that it can be sanctioned in judicial proceedings to obtain an order to pay a sum of money. In essence, any right that can be "turned into money"[19] tends to be considered a chose in action.

Digital assets can hardly be included among the things in possession, since they are completely intangible. Neither their classification as things in action is entirely satisfactory, as it is not always possible to determine a subject against which to assert the right claimed by their owner[20]. Nonetheless, the English judges have always shown a high degree of flexibility, including among the things in action every new right having patrimonial value. This happened, for example, for milk quotas[21], carbon emission quotas[22], export quotas[23], waste management licenses[24].

In 2019, the UK Jurisdiction Taskforce issued an important document, entitled "Legal statement on cryptoassets and smart contracts"[25]. It came to the conclusion that cryptocurrencies should be included in the catch-all category of personal property. In particular, the study believes that cryptocurrencies have all the characteristics of property, laid down in the leading case *Ainsworth* of 1965, according to which: "Before 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"[26]. The blockchain makes it possible to associate the cryptocurrencies to a specific subject; moreover, the cryptographic-based authentication procedure ensures that the holder of the private key is the only one authorized to dispose of the cryptocurrency, to the exclusion of anyone else. As for the faculty of disposal, the holder can certainly transfer the cryptocurrency to third parties and, finally, the requirement of stability is ensured by the fact that its permanence in the holder's hands lasts until the cryptocurrency is cancelled or transferred.

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[18] M. Bridge-L.Gullifer-K. Low-G. McMeel, *The Law of Personal Property*, 3a ed., London, 2021, par. 1-018.
[19] *Investors Compensation Scheme Ltd v West Bromwich Building Society* [1998] 1 W.L.R. 896, at p. 915.
[20] For a comprehensive analysis, see L. Sagar-J. Burroughs, *The Digital Estate*, 2nd ed., London, 2022, esp. ch. 4 and 8.
[21] *Swift v. Daisywise (No 1)* [2000] 1 WLR 1177.
[22] *Armstrong DLW GmbH v Winnington Networks Ltd* [2012] EWHC 10 (Ch.).
[23] *A-G of Hong-Kong v Chan Nai-Keung* [1987] 1 WLR 1339.
[24] *Re Celtic Extraction Ltd* [2001] Ch 475.
[25] Available at *https://35z8e83m1ih83drye280o9d1-wpengine.netdna-ssl.com/wp-content/uploads/2019/11/6.6056_JO_Cryptocurrencies_Statement_FINAL_WEB_111119-1.pdf.*
[26] *National Provincial Bank v Ainsworth* [1965] 1 AC 1175.

The conclusions reached in the Legal Statement were confirmed by the High Court in the *AA v Persons Unknown* case[27]. The dispute originated from the request formulated by an English insurance company to obtain the return of bitcoins transferred by a Canadian company, its client, to some subjects, whose identity the judge conceded not to disclose. It had in fact happened that, following an attack by computer hackers, the insured Canadian company had suffered the blockage of its operating systems, which had been encrypted and rendered unusable. The hackers had offered to send a program to restore full functionality, upon payment of a ransom. In order to limit the damage, the insurance company had instructed its client to agree to the request and then to pay the equivalent of 950,000 dollars in bitcoins, according to the methods indicated by the hackers, in order to receive the recovery program in return (thus also avoiding greater damages to be indemnified). Substituting its client's rights, the company then commissioned an expert to attempt to identify the beneficiaries of the payment. The investigations carried out revealed that the bitcoin wallet was connected to a platform operated by two foreign companies. The insurance company asked the reimbursement of the bitcoins, on the basis of various alternative claims, i.e. by way of restitution, unlawfulness of the contract or by virtue of the principles of constructive trust, on the basis of which the owners of the platforms through which the bitcoins transfer had taken place were involved, as presumed trustees (constructive trustees).

In order to prevent the bitcoins to be lost during the time necessary for the proceedings, the insurer also requested immediate interim remedies, *inaudita altera pars*, explaining precisely that he had reimbursed his client company the sum of 950,000 dollars, with which the bitcoins were purchased to pay the ransom. The judge allowed the claim for proprietary injunction, aiming at the seizure of the debtor's assets to prevent their dissolution. Since the proprietary injunction postulates the existence of a dispute over property, the High Court had to establish the legal nature of bitcoin, concluding that it possesses all the characteristics to be included in personal property, in adherence to the arguments developed in the Legal Statement examined above. This judgment opened the way to other subsequent decisions, confirming the inclusion of cryptocurrencies in the category of personal property.

However, it is interesting to observe that it is deeply debated how to precisely qualify digital assets within this category. According to traditional teaching, "all personal things are either in possession or in action. The law knows no *tertium quid* between the two" [28] and some scholars wonder whether it could be more appropriate to identify a *tertium genus* in order to provide a more precise legal framework with respect to the new digital entities.

[27] *AA v Persons Unknown* [2020] 4 W.L.R. 35. About the qualification in terms of property, P.G.Watts-F.K. Low, *The Case for Cryptoassets as Property*, 2022, available at https://ssrn.com/abstract=4354364 or *http://dx.doi.org/10.2139/ssrn.4354364*, *T. Chan, The nature of property in cryptoassets, in Legal Studies, 2023, available at https://www.cambridge.org/core/journals/legal-studies/article/nature-of-property-in-cryptoassets/6B882C05BD3D9A7A924FBE41C359E92E*; J. Jacques, *E-money and trusts: a property analysis*, in *Law Quarterly Review*, 2022, p. 605.

[28] *OBG Ltd v Allan [2007]* UKHL 21, per Lord Fry.

This issue was extensively addressed by the Law Commission in the Consultation Paper on Digital Assets issued in 2022[29], where it was observed that the category of things in action includes those rights that can be "asserted by taking legal action or proceedings", while digital assets exist independently of other subjects, so that it is not consistent to consider them as things in action. The recognition of a third category of personal property would make it possible to adequately consider the fact that digital assets have peculiar characteristics both with respect to things in possession and things in action.

The topic is quite controversial and there are strongly conflicting opinions regarding it[30]. In particular, some argue that today's debate seems in line to the one started over a century ago regarding the legal nature of copyright and, in general, of intellectual property rights, which has proved to be rather sterile, since the flexibility of the English model of property has allowed the courts to easily place those new situations in the realm of personal property[31].

In the Final Report on Digital Assets issued on June 2023[32] the Law Commission insists on the third category approach and considers that case law shows that "the common law has clearly moved towards the explicit recognition of a third category of things to which personal property rights can relate"[33]. Consequently, the Law Commission concludes that a statutory confirmation is not necessary, even if it could be helpful in order to allow the courts to focus on the substantive issues before them and reduce the time spent on questions of categorisation of objects of personal property rights[34].

Without going into the details, it is worth pointing out that the precise classification of 'digital assets' is controversial, but their inclusion in the field of personal property seems now unquestioned by courts. The 'proprietary' nature of the rights claimed by their owner has also a widespread academic support.

Against the background of such a general consensus, a dissenting view claims that cryptoassets are independent of a single operator or a particular legal system backed up by state power and it is impossible to identify a right, power, privilege or immunity they could give rise to in legal proceedings[35]. However, also in other common law jurisdictions, courts reached the conclusion that cryptocurrencies are capable of being objects of personal property rights. The various consequences that follow from this include recognition that

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[29] Available at https://www.lawcom.gov.uk/project/digital-assets/. The *tertium genus* thesis was shaped by D. Fox, *Cryptocurrencies in the Common Law of Property*, in D. Fox-S. Green (cur.), *Cryptocurrencies in Public and Private Law*, Oxford, 2019, pp. 139 ss., seguito da J-Sarra-L. Gullifer, *Crypto-claimants and bitcoin bankruptcy: Challenges for recognition and realization*, in *International Insolvency Review*, 2019, p. 233; see also J.D. Michels-C. Millard, *The New Things: Property Rights in Digital Files?*, in *Cambridge Law Journal*, 2022, p. 323.

[30] For a punchy critic against the *tertium genus*, see K.F.K. Low, *Cryptoassets and the Renaissance of the Tertium Quid?*, *cit.*

[31] H. W. Elphinstone, *What is a Chose in Action?*, in *Law Quarterly Review*, 1893, p. 311, F. Pollock, *What is a Thing?, ivi*, 1894, p. 318; W.S. Holdsworth, *The History of the Treatment of Choses in Action by the Common Law*, in *Harv. L. Rev.*, 1920, p. 997.

[32] *Digital Assets: Final Report*, available at https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2023/06/Final-digital-assets-report-FOR-WEBSITE-2.pdf.

[33] See the over 24 cases quoted in the Report, 3.9, p. 53, ref. 207.

[34] Recommendation 1, 3.76, p. 55.

[35] R. Stevens, *Crypto is not Property*, in *Law Quarterly Review*, 2023, forthcoming, available at https://ssrn.com/abstract=4416200.

crypto-tokens can be subject to an interlocutory proprietary injunction, are capable of being held on trust and fall within broad statutory definitions of "property"[36].

V. THE RECOURSE TO TRUST AND, IN PARTICULAR, TO CONSTRUCTIVE TRUST.

From a comparative perspective, significant outcomes arise from the qualification in terms of property in the common law world, in particular thanks to the possibilities offered by trust. According to its general theoretical scheme, trust is a mechanism – essentially unknown in the civil law countries - on the basis of which a settlor transfers to a trustee the property right on one or more assets in order to administer them in favour of one or more beneficiary(-ies).

The trustee's duty affects the assets themselves, with the consequences that, on the one hand, a separate patrimony is created and, on the other hand, the beneficiary acquires a right affecting the assets in order to maintain their destination to his profit. Through the remedy of tracing, it is possible to 'follow the traces' of the assets transferred to the trustee, to ensure that they belong to the beneficiary if they have been transferred in violation of the trust duty or if they have been confused with the trustee's personal patrimony. The beneficiary can recover the original assets or, at least, what they have been converted into (money, shares, other assets purchased with the proceeds, etc.). The right of the beneficiary, therefore, is able to bind anyone who purchases the original assets or those that can be traced back to them, with the sole exception of the purchaser for value and without notice of the trust (the so-called equity's darling).

Although the issue of the nature of the beneficiary's right is constantly debated, the common law judges tend to qualify it as 'real' right, because it binds anyone who acquires the assets as long as it is possible to identify them in some form, even if different from the original one, up to the money that is obtained from their sale to third parties. Moreover, the protection of the right of the beneficiary is strengthened by equity through the so-called constructive trust, on which it is useful to dwell briefly as it assumes a specific interest for our purposes.

It is based on the idea that a third party can be held liable as a constructive trustee when he has collaborated in the violation of the trust duties or has become the transferee of the trust assets despite being aware of their violation. According to the approach followed by the English judges, the beneficiary acquires an equitable interest at the very moment in which the violation of the fiduciary obligations occurs and, conversely, no right is acquired by whoever collaborated in the violation.

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[36] See for instance in Australia *Chen v Blockchain Global Ltd* [2022] VSC 92 and *Commissioner of the Australian Federal Police v Bigatton* [2020] NSWSC 245; in Canada *Shair.Com Global Digital Services Ltd v Arnold* [2018] BCJ 311; in Hong Kong *Re GateCoin Ltd (In Liquidation)* [2023] HKCFI 914; in New Zealand *Ruscoe v Cryptopia Ltd (In liquidation)* [2020] NZHC 728. In the US, the proprietary nature of cryptoassets was expressly held in *In re Celsius Network LLC, et al.*, 647 [2023] B.R. 631 decided by the U.S. Bankruptcy Court for the Southern District of New York. It concerns the bankruptcy of a platform where large quantities of cryptocurrencies were deposited. Individual customers claimed their return, arguing that ownership had not been transferred to the platform. The judge, does not doubt about the nature of the right claimed on cryptocurrencies, even if he concluded that individual customers are simple unsecured creditors because, on the basis of the general terms of the contract, property has been transferred to the platform. This judgment opened a lively debate and, although it does not constitute a binding precedent, it indicates the importance of carefully analysing the content of the general terms accepted by users. Cfr. J. Bernbrock-J. Nassiri-P. Almasi, *Ownership Issues in Crypto Cases*, in *American Bankruptcy Institute Journal*, 2023, available at www.abi.org.

Although some English authors consider that the beneficiary's right is a "personal right", this terminology should not be confused with the meaning that "personal right" assumes in the civil law world. In fact, thanks to tracing and constructive trust, the position of the beneficiary is protected not only in a personal key, i.e. as a right that can be exercised against the original trustee, but also against the third parties involved, even without their knowledge, in the violation of the trust duties. It is a 'real' protection, both from the side of the right that is asserted, and from the side of the possible recovery of the assets[37].
Keeping these references in mind, it is then useful to review the already significant cases concerning the protection of cryptocurrency buyers.
One of the first occasions in which the issue was addressed was *B2C2 Ltd v Quoine Pte Ltd* decided by the Singapore International Commercial Court (SICC). [38] The Quoine company operated in the cryptocurrency exchange with the collaboration of other companies also operating in the sector, in particular through the purchase and resale of bitcoin against ether. Due to an error in Quoine's software, there had been an abnormal overestimation of the market value of ether compared to bitcoin, resulting in a huge loss suffered by one of the customers, who took legal action claiming, among other things, that Quoine held cryptocurrencies on trust in favour of the customers as beneficiaries. This request was allowed by the Court on the ground that cryptocurrencies constitute (personal) property and, as such, the trust mechanism is applicable to them.
The High Court of New Zealand also went in the same direction in the case *Ruscoe v. Cryptopia*[39]. Cryptopia Ltd was a company operating a digital cryptocurrency trading platform that went into liquidation following a cyberattack that resulted in the theft of a number of cryptocurrencies worth NZD 30 million. The judges were called to address the problem of the legal nature of cryptocurrencies as the users of the platform argued that the platform should be considered as a trustee, so that customers hold an equitable interest as beneficiaries and, as such, are to be preferred to other creditors. In adherence to this thesis, the Court held that cryptocurrencies should be considered as property as they can be identified on the basis of the public key, to which the private key of their holder is associated and, in the event of transfer, on the basis of the generation of a new private key[40]. The Court therefore held that the cryptocurrencies are held in trust in the wallet managed by the platform.

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[37] In this sense, see the leading case *Foskett v McKeown* [2000] 2 WLR 1299. Recently, H. Dagan-I. Samet, *The Beneficiary's Ownership Rights in the Trust Res in a Liberal Property Regime*, in *Modern Law Review*, 2023, p. 701.
[38] [2019] SGHC(I) 3. The decision was then reversed by the Singapore Court of Appeal (SGCA), (*Quoine Pte Ltd v B2C2 Ltd* [2020] SGCA(I) 2), but for reasons pertaining the facts and so without affecting the thesis about the nature of cryptocurrencies. See K. Low, *Trusts of Cryptoassets*, in *Trust Law International and Trusts and Private Wealth Management: Developments and Directions*, Cambridge, 2021, City University of Hong Kong School of Law Legal Studies Research Paper No. 2020-020, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3749040.
[39] *Ruscoe and Moore v. Cryptopia Limited (in Liquidation)* [2020] NZHC 728. See the extensive comment by M. Solinas, *Investors' Rights in (Crypto) Custodial Holdings: Ruscoe v Cryptopia Ltd (in Liquidation)*, in *Modern Law Review*, 2021, p. 155.
[40] "They are a type of intangible property as a result of the combination of three interdependent features. They obtain their definition as a result of the public key recording the unit of currency. The control and stability necessary to ownership and for creating a market in the coins are provided by the other two features

Many English cases rely on these precedents, going even further. In *D'Aloia v. Persons Unknown and Others*[41] decided by the English High Court in 2022, a company that operated a cryptocurrency exchange platform had induced an investor to make several deposits, then blocked his account, resulting in the impossibility of recovering the cryptocurrencies deposited there. Realizing the fraudulent nature of the company's conduct, the interested party requested the pronouncement of a precautionary measure against persons whose identity was unknown, but on whose platforms the cryptocurrencies appeared to have been deposited, as ascertained by specific IT investigations. In granting the requested remedy, the High Court started from the premise that cryptocurrencies constitute property and, therefore, whoever holds them can be considered constructive trustee, if in some way he has cooperated in their dispersion, so that the holder can recover their value from anyone it is traceable.

The same trend can be seen in the first decisions about NFTs (Non Fungible Tokens). The *Rajkumar* case decided by the High Court of Singapore concerned a decentralized finance operation[42]. The defendant (Chefpierre) undertook to lend a certain number of cryptocurrencies, receiving as a pledge an NFT belonging to the plaintiff. According to the contract stipulated by the parties, in the event of non-repayment of the loan, the NFT would be automatically transferred to the company, as indeed happened following the default. However, the NFT itself had meanwhile been put up for sale by the company on a different platform. The plaintiff sought a remedy to inhibit the transfer to third parties as an interim measure. Without qualifying the nature of the right on a NFT, the Court allowed the request, which was based on the existence of a proprietary right on the NFT. Other English cases follow the same path. In particular, the High Court issued two judgments relating to the same case: *Osbourne v. Persons Unknown* and *Ozone*[43] *and Osbourne v. Persons Unknown and Others*[44]. Complaining of having suffered the unlawful removal of two NFTs from her digital wallet, the plaintiff asked the Court for an injunction against the alleged wrongdoers in order to prevent the transfer to third parties. Of particular interest is the second judgment, in which the Court decided on the request for an injunction against the use and transfer of NFTs to third parties involving some companies located in other countries, managing portfolios to which the NFTs had been transferred. According to the High Court, under English law NFTs are property, so that the companies with which they are deposited can be considered as constructive trustees, in the interest of their beneficiary, since their removal from the original portfolio took place fraudulently. In reaching this conclusion, the High Court also considered that the remedy for compensation for damages is not satisfactory, both because the identity of the wrongdoers is unknown, and because the NFTs in question had a value for the owner going beyond their economic value.

– the private key attached to the corresponding public key and the generation of a fresh private key upon a transfer of the relevant coin" (n. 120).

41 *D'Aloia v. Persons Unknown and Others* [2022] EWHC 1723, p. 4.

42 *Janesh s/o Rajkumar v. Unknown Person ("CHEFPIERRE")* [2022] SGHC 264. T. Chan-K. F. K. Low, DeFi Common Sense: The Risk of Crypto-backed Lending in Janesh s/o Rajkumar v Unknown Person ("CHEFPIERRE"), 2023.

43 *Lavinia Deborah Osbourne v. Persons Unknown and Ozone* [2022] EWHC 1021.

44 *Lavinia Deborah Osbourne v. Persons Unknown and Others* [2023] EWHC 39.

The Court also addresses the delicate issues relating to service outside the jurisdiction and to the law applicable to a case which evidently has an international nature, given that the companies to whom the NFTs were transferred are incorporated abroad[45]. The request was allowed on the grounds that the relevant English civil procedure rules make it possible to serve abroad if the application concerns assets located in England or Wales or if it is addressed to a person as a constructive trustee according to English law. To this last respect, the Court considers that "[…] the constructive trust alleged to have been created when the Alleged Hackers transferred the Two NFTs from the MetaMask Wallet was governed by English law and, consequently, that the question whether the Third and Fourth Defendants in turn became constructive trustees when they received the trust property was also governed by English law"[46].
In essence, this decision clearly shows the very flexible approach adopted by the English judges, who do not hesitate to root disputes involving foreign companies within the jurisdiction, on the basis of the constructive trust mechanism.

VI. Conclusions

The time has now come to draw some concluding remarks. The new technologies open up unprecedented perspectives, marked by the dematerialization of 'things' within virtual spaces, in the web, a fascinating and mysterious place, where new entities continually appear, as easy to grasp as they are quick to vanish in a network where they are born, live, aggregate, but can also hide.
In both the civil law and the common law traditions there is an attempt to qualify these entities from a legal point of view, in a context characterized by a fragmented and uncertain regulatory framework, due also to the fact that it is a phenomenon deeply linked to electronic communication networks and which therefore lies outside the legal systems. The complexity of today's world projects us into a dimension where law becomes less and less identifiable in an exclusively territorial key.
This is precisely the reason why a comparative approach is unavoidable. In this perspective, we observed that both traditions are moving in the direction of bringing the new digital entities into the orbit of a "proprietary" reading, to protect those who, venturing into the world of the web, risk seeing vanish what they (believe to) own. The very fact that the traditional property discourses schemes are used in this field shows to what extent the name and of the concept of property is capable of being expanded, in a process that appears to be endless, which sees that name adapt to new and different contexts[47]. In particular, as regards the experience of civil law, the qualification of the new digital entities as 'immaterial assets' can only be read as an attempt to consider the new entities as susceptible to appropriation. However, we noted that this qualification collides

[45] Cfr. *Practice Direction 6B – Service out of the Jurisdiction*, emanata in attuazione della Section IV della Part 6 dei *Civil Procedure Rules*, available at https://www.justice.gov.uk/courts/procedure-rules/civil/rules/part06/pd_part06b.
[46] *Lavinia Deborah Osbourne v. Persons Unknown and Others* n. 43. See J. Lam, *Establishing proprietary claims over cryptocurrencies*, in *Trust Law International*, p. 94.
[47] About the idea of property resilience see L. Moccia, *Riflessioni sull'idea di proprietà*, in Id., *Comparazione giuridica e prospettive di studio del diritto, cit.,* p. 191.

with the difficulty of recognizing to the owner of digital assets the typical remedies associated with property, as a paradigm of the immediacy of the powers guaranteed by the law and of the effectiveness of the related remedies. In other words, when it is stated that we are in the presence of 'new assets', as such capable of becoming property objects, it remains to specify the content of the right of whoever owns them and, in essence, if the owner has the right to recover them from everybody who possess them.

It is precisely at this point that the weight of the nineteenth century's civil law model of property re-emerges, based on an idea of property as an absolute and exclusive right calibrated on the materiality of its object. This model is substantially incompatible with goods that exist in an exclusively immaterial dimension. For example, with reference to NFTs, the French authors, while starting from the qualification in terms of assets capable of becoming the object of property, are forced to ask themselves whether the right over them is comparable to the 'classical' property. They wonder, in particular, if the property remedies are available or not to the owner of NFTs, stating that "many of the new entities respond only in part to the classical regime of property. Their holder often enjoys limited, sometimes very limited, prerogatives"[48]. These digital goods therefore border on 'half' goods or 'mini' goods, unless they are simply 'false' goods".[49]

It is interesting to consider the recent initiative of Unidroit, which established a specific working group with the aim of drafting "Principles on Digital Assets and Private Law", approved by the Institute's Council on May 10, 2023[50]. Its purpose is to offer guidance to national legislators wishing to enact rules in accordance with international standards regarding the custody, transfer and use of digital assets, defined as electronic records that are capable of being subject to control ("Digital asset means an electronic record which is capable of being subject to control," Art. 2.2). The Principles address only private law issues in order to unravel some critical profiles related to the transfer and use of digital assets. Due to the difficulty of reconciling the opposing civil law and common law models of property, the choice of the drafters goes in the direction of overcoming the stumbling block related to the nature of the right enjoyed by the person owning the digital assets. Indeed, the official commentary text makes it clear that the Principles, while considering digital assets as susceptible to be the subject of proprietary rights, do not address the question of whether they should be considered as property, which is to be ascertained according to state regulations. Instead, the Principles focus on the a-technical notion of 'control,' defined by Article 6 as the situation that gives the subject exclusive power to derive utility from the digital asset, to transfer control over it, and to prevent a third party from enjoying it.

The choice of the drafters goes in the direction of overcoming the obstacle related to the nature of the right enjoyed by the subject who owns the digital assets. Even if

[48] See N. Martial-Braz, *Les NFT aux prises avec le droit des biens: essai d'une qualification*, in *Rev. Dr. Bancaire et Financier*, 2022, n. 4, p. 1.

[49] « […] nombre de nouveaux biens n'obéissent qu'assez partiellement au régime classique des biens et, notamment, aux articles 544 et suivants. Leur titulaire bénéficie souvent de prérogatives réduites, voire très réduites. Les vrais biens voisinent donc avec des demi-biens et des mini-biens à moins qu'il ne s'agisse, tout simplement, de faux biens » : H. Périnet-Marquet, *Regard sur les nouveaux biens*, in JCP, éd. gén., 2010, p. 2071.

[50] The text (with comments) is available at https://www.unidroit.org/wp-content/uploads/2023/04/C.D.-102-6-Principles-on-Digital-Assets-and-Private-Law.pdf.

understandable, however, this is not perhaps a real solution. Significantly, some French commentators outline the discrepancy between French law and the Unidroit Principles' notion of control, especially with regard to the mechanisms concerning the transfer of property rights on digital assets and the position of a *bona fidae* third party[51]. The same remark could be addressed as far as Italian law is concerned. This shows that it is not easy to overcome the different models and conceptions of property and the solution to bypass them through a-technical notions (such as 'control') could create misunderstandings and hamper harmonization in this field.

In the preceding pages we outlined that also in the common law world the emergence of digital entities, having peculiar characteristics, generates problems and sometimes confusions, as shown by the debate on the opportunity to add a new category of digital assets within the traditional articulation of personal property. However, the model of property accepted in the Anglo-American tradition is certainly more inclined to welcome digital entities within the realm of property. In continuity with the flexible and articulated medieval (feudal) experience, the common law model of property has a marked patrimonial connotation. It is characterized by a sort of abdication of the idea of ownership of things in a material sense, in favour of a conception of ownership of rights, which can be qualified as a set of powers relating to things, including incorporeal assets. Property is not linked to the thing itself, but to the utilities that can be drawn from it[52].

Whether it concerns rights to the possession and enjoyment of identified things or simple rights to receive an income, what really matters is their patrimonial value (and, in this sense, 'proprietary'), as well as the possibility of their judicial protection in a specific form, which allows the holder of the right to recover the 'thing' or in any case its value[53]. One of the outstanding outcomes of this conception is that it allows to recur to the trust mechanism, which reveals its usefulness and flexibility in providing for adequate remedies for the recovery of digital assets in the event that, due to malfunctions or for computer piracy attacks, they reach the legal sphere of third parties, who can be considered constructive trustees if they have somehow cooperated in their dispersion. Although with a certain emphasis and with an attitude of self-satisfaction, it is then at least understandable the remark according to which: "The great advantage of the English common law system is its inherent flexibility. Rather than depending on the often cumbersome, time-consuming and inflexible process of legislative intervention, judges are able to apply and adapt by analogy existing principles to new situations as they arise"[54].

[51] C. Leveneur-T. Cremers, *Les transferts et la protection de l'acquéreur de bonne foi selon les Principes Unidroit régissant les actifs numériques*, in *Revue de droit banquier et financier*, 2023, 4, p. 1.
[52] See R. Goode, *What is property?*, in *Law Quarterly Review*, 2023, p. 1.
[53] L. Moccia, *Il modello inglese di proprietà, cit.,* p. 144
[54] *Legal Statement on Cryptoassets and Smart Contracts, cit.*, p. 4.