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The Influence of Dante's Thinking Over the Notions of Sovereignty, Imperialism, and its Potential in the Realm of the Fourth Industrial Revolution and Blockchain Networks

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Abstract

Ep. XIII provides a hermeneutic instrument to test legal validity today in the light of multi-layered phenomena shaping the ecosphere and infosphere. While De Saussure's thrust regarded the one-to-one relation between a word and its meaning, Dantesque multi-sensory theory may give more consistent framework to perceive the evolution of reality and its components at the time of the Fourth Industrial Revolution (Schwab, 2014).

Keywords: Medieval Literature, Dante, Law, Semiotics, De Saussure, Legal Validity, Blockchain

1. Introduction

This study aims at individuating some correspondences among Dante's thinking and the Western legal and political traditions. Firstly, the analysis will examine the concepts of unity and order, representing a recurring pattern informing absolutism and imperialism. At a second stage, the attention will be drawn to the changes produced by the Fourth Revolution with a particular focus on permissioned blockchain. To this end, the Dantesque thought may actively concur to frame this phenomenon considering the lack of a univocal classification by legal and social sciences. In concrete, the argument of the *sovra*-senses theory can contribute to putting into relation traits pertaining to past and present societies. The argument is built on the hermeneutic contribution the above-mentioned theory may bring in terms of legal validity through diachronic continuity. To put it differently, if these developments are only ascertainable in fact, the following consideration would try to establish some ontological relations with the existing base of cultural and legal principles. In that regard, the arguments below can also set limits to technological disruption limiting its unfairness. For the sake of this study, It must first be said that this new emerging legal approach *flattens* the underlying hierarchy existing among state organs therefore questioning the role and position of statues, their formation, the State, and ultimately of the law itself. From the one hand, the inner traits of smart contracts can overshadow nuanced legal reasoning given the inflexibility of algorithms.

Overall, it should be remembered that algorithms process bulks of data in an ahistorical, atemporal, and therefore a-contextual manner. By contrast, human-based decision-making (e.g. a court's decision) operates a deductive choice wherein the temporal dimension plays a central role for the qualification of facts. Methodologically, the suggested approach aims to coordinate traditional forms of governance (i.e. statehood and imperialism) with emerging technologies (i.e. blockchain networks and AI). In so doing, Dante's exegetical techniques and their implementation can establish their interoperability through contextuality. In turn, this suggested method tends to establish the adjustment of legal validity categories before technological changes and algorithmic rigidity.

2. Unity, *ordo*¹, and De Monarchia as pillars of Western Society

The evolution of medieval tradition principles shaped Western society's traits until today. In this section, the reference to unity and *ordo* would constitute the basis to consider socio-institutional developments in the Western world in a seamless manner. Therefore, the notion of unity characterizes Medieval Europe² in terms of uniformity in law, religion, and values. In turn, unity produces *ordo* understood as harmony, or righteousness (Lingat 1998)³ among people, the cosmos, and supreme powers. The latter ensures happiness, and stability to the social structure. To this end, the follow outline from medieval sources (i.e. *auctoritates*) would explain their interplay. In sum, they converge on the thematic nexus of units, order, and the nuanced coexistence between the papacy and temporal power within the medieval ecclesiastical, legal, and societal framework.

Die summa über das Decretum Gratiani, J. Friedrich von Schulte (ed.) Giessen 1891⁴.

«There it is said that these are the two by which the world is governed, namely, the priesthood and the kingdom; but it is the same. For it is governed by them, but by these, i.e. by this, that you may understand, the priesthood by natural right, i.e. divine, to rule the world, and the kingdom by manners, i.e. to do the same by international and civil law».

Ibi dicitur quia haec duo sunt, quibus mundus regitur, scil. sacerdotium et regnum; sed idem est. Nam ab eis regitur, sed his, i.e. per hoc, ut intelligas, sacerdotium per ius naturale, i.e. divinum, mundum regere, et regnum per mores, i.e. per ius gentium et civile idem facere.

¹ The concept of *ordo* encapsulates a hierarchical framework governing societal, cosmic, and theological structures. Derived from Latin *ordo* denotes an ordered arrangement reflecting divine harmony. Rooted in Augustinian and Thomistic traditions, it elucidates a cosmic hierarchy mirroring the celestial order. Ecclesiastical and feudal systems emulate this divine structure, emphasizing the subordination of elements for societal stability.

² Cf. the maxim attributed to Jean Brodeau (XVI Century) «One law, one religion, one empire» *Unum ius, una religio, unum imperium*. A nuanced exploration of individuality and unity can be found in the thought of Scotus. More precisely, his profound engagement with metaphysical questions, and his concept of haecceity added a unique dimension to the broader discussion of unity within the context of God's creation.

In Scotus's philosophical and theological framework, haecceity refers to the "thisness" or individuality of each entity. It goes beyond the general nature of a thing and addresses its specific, concrete existence as a distinct entity. This concept is especially pertinent when considering the unity of God's creation and the theological implications of individual existence within that overarching unity.

Scotus's exploration of haecceity can be situated within the broader context of the medieval debate on universals and particulars. While thinkers like Thomas Aquinas and Peter Abelard grappled with the nature of universals – abstract entities that exist beyond individual instances – Scotus shifted the focus to the particular, emphasizing the irreducible singularity of each individual being.

The theological implications of Scotus's concept of haecceity are profound. It challenges a simplistic understanding of unity by acknowledging the diversity inherent in God's creation. Each individual being, according to Scotus, possesses a unique haecceity that contributes to the overall diversity within the unified framework of the divine plan.

Furthermore, Scotus's concept of haecceity intersects with his broader theological contributions, such as his defense of the Immaculate Conception. In arguing for the singular privilege of Mary being conceived without original sin, Scotus emphasized the importance of recognizing the particularity and uniqueness of each individual in God's redemptive plan.

The concept of haecceity also engages with the broader theological question of human identity and the nature of God's knowledge. Scotus proposed that God's knowledge of individuals is not based on abstract universals but involves a direct and intimate knowledge of each entity's haecceity. This perspective underscores the individual's significance within the divine order, emphasizing a personalized relationship between the Creator and the created.

Scotus's emphasis on haecceity challenges monolithic conceptions of unity, introducing a dimension of diversity within the divine plan. While unity remains a fundamental theological principle, haecceity invites theologians to grapple with the intricacies of individuality and particularity within the context of God's overarching unity.

³ To continue, the comparison between Dharma (Lingat 1998) and *aequitas* may result fruitful.

⁴ This summary provides a nuanced commentary, shedding light on the interplay of ecclesiastical structures and legal doctrines. Within this context, the emphasis on units is palpable, as the *Summa* strives to elucidate the various components and interconnections within the *Decretum*, creating a cohesive understanding of canonical principles.

Concilium Parisiense, a. 829, Ch. II-III, MGH, Concilia, II/II, Hannover-Leipzig, 1908⁵.

«That the universal holy Church of God is one body and its head is Christ. [...]

That the body of the same church is principally divided into two exceptional persons. In the main, then, we know that the body of the whole holy Church of God is divided into two exceptional persons, the priestly and the royal, as we have received from the holy fathers.

On which subject Gelasius, the venerable bishop of the Roman see, writes to the emperor Anastasius thus: They are to be given account in the divine examination».

Quod universalis sancta Dei Ecclesia unum corpus eiusque caput Christus sit. [...]

Quod eiusdem ecclesiae corpus in duabus principaliter dividatur eximiis personis. Principaliter itaque totius sanctae Dei Ecclesiae corpus in duas eximias personas, in sacerdotalem videlicet et regale, sicut a sanctibus patribus traditum accepimus, divisum esse novimus.

De qua re Gelasius Romane sedis venerabilis episcopus ad Anastasium imperatorem ita scribit: Duae sunt quippe, inquit, imperatrices augustae, quibus principaliter mundus hic regitur; auctoritas sacrata pontificium et regalis potestas, in quibus tanto gravies pondus est sacerdotum, quanto etiam pro ipsis regibus hominum in divino reddituri sunt examine rationem.

Corpus Iuris Canonici, col. 497 [C.2 q.7 d.p.c. 41]⁶.

«So and b[lessed] Ambrose excommunicated the emperor, and prevented him from entering the church. For just as it is not without reason that the priest carries the sword, so it is not without reason that the priests receive the keys of the church. He carries the sword for the vengeance of the wrongdoers, but the praise of the good has the keys for the exclusion of the excommunicated and the reconciliation of the penitent».

Sic et b. Ambrosius imperatorem excommunicavit, et ab ecclesiae ingressu prohibuit. Sicut enim non sine causa idem gladium portat, ita non sine causa claves ecclesiae sacerdotes accipiunt. Ille portat gladium ad vindictam malefactorum laudem vero bonorum isti claves habent ad exclusionem excommunicandorum et reconciliationem penitentium.

Corpus Iuris Canonici, col. 497 [C.2 q.7 d.a.c. 42].

«But it must be noted that there are two persons by whom this world is governed, the royal and the priestly. As kings are present in the causes of the world, so priests in the causes of God».

Sed notandum est, quod duae sunt personae, quibus mundus iste regitur regalis videlicet et sacerdotali. Sicut reges present in causis saeculi, ita sacerdotes in causis Dei.

Overall, the above-mentioned coeval sources acknowledge the two supreme powers which are the Empire, and the Church. The former regulates the earthly aspects of human life. The latter aims at ensuring the salvation of the soul.

During the Middle Ages severe disputes arose regarding a possible hierarchy among them. In a concise manner, Dante's *De Monarchia* outlines a synthesis resulting in their coexistence. Put differently, they are complementary but separate. They both should refrain from interfering in the other's sphere.

The following passage (Dante, 1313)⁷. points out the absolute need of humanity for them. In concrete, the argument is built on their necessary interdependence producing their mutual enhancement.

⁵ Chapters II and III of this Council delineate the organizational facets of the Church, illustrating the concerted effort to establish and maintain a structured ecclesiastical hierarchy. The emphasis on order is evident in the meticulous delineation of roles and responsibilities within the ecclesiastical domain, fostering a sense of cohesion and stability.

⁶ The coexistence between the papacy and temporal governance is carefully navigated, reflecting the nuanced relationship between ecclesiastical and secular authorities during the medieval period. These canonical excerpts underscore the importance of maintaining a harmonious equilibrium, acknowledging the distinct yet interrelated spheres of influence wielded by the papacy and temporal rulers.

⁷ *De Monarchia*, III, XI, §10.

«For this reason, it must be known that, just as there is relation to relation, so relative to relative. If therefore the Papacy and the Empire, being relations of superposition, must be reduced to the respect of superposition, from which respect they descend with their differentials, Pope and Emperor, being relative, will have to be reduced to someone in which the same respect of superposition is found without other differentials».

Propter quod sciendum quod, sicut se habet relatio ad relationem, sic relativum ad relativum. Si ergo Papatus et Imperatus, cum sint relationes superpositionis, habeant reduci ad respectum superpositionis, a quo respectu cum suis differentialibus descendunt, Papa et Imperator, cum sint relativa, reduci habebunt ad aliquod unum in quo reperitur ipse respectus superpositionis absque differentialibus aliis⁸.

Therefore, unity turns out to be the paradigm, as an unavoidable element for ensuring order. From another angle, Dante confirms this formulation in Paradise Chant VI of the *Comedy* in the renowned invective of Justinian⁹.

⁸ *Ibidem*, «At this point it must be understood that as relation stands to relation, so stands related thing to related thing. Hence if the Papacy and Empire, being relations of authority,⁵ must be measured with regard to the supreme authority from which they and their characteristic differences are derived, the Pope and Emperor, being relative, must be referred to some unity wherein may be found the supreme authority without these characteristic differences».

Translation by A.H. Reinhardt, available at https://oll.libertyfund.org/title/reinhardt-de-monarchia#lf1477_label_096

⁹ Vv. 97-111:

«Now you can judge those I condemned above,
and judge how such men have offended, have
become the origin of all your evils.

For some oppose the universal emblem
with yellow lilies; others claim that emblem
for party: it is hard to see who is worse.

Let Ghibellines pursue their undertakings
beneath another sign, for those who sever
this sign and justice are bad followers.

And let not this new Charles strike at it with
his Guelphs—but let him fear the claws that stripped
a more courageous lion of its hide.

The sons have often wept for a father's fault;
and let this son not think that God will change
the emblem of His force for Charles's lilies».

*Omai puoi giudicar di quei cotali
ch'io accusai di sopra e di lor falli,
che son cagion di tutti vostri mali.*

*L'uno al pubblico segno i gigli gialli
oppone, e l'altro appropria quello a parte,
sì ch'è forte a veder chi più si falli.*

*Faccian li Ghibellin, faccian lor arte
sott' altro segno, ché mal segue quello
sempre chi la giustizia e lui diparte;*

*e non l'abbatta esto Carlo novello
coi Guelfi suoi, ma tema de li artigli
ch'a più alto leon trasser lo vello.*

*Molte fiate già pianser li figli
per la colpa del padre, e non si creda
che Dio trasmuti l'armi per suoi gigli!*

With the advent of the Modern Age, this Pan-European dimension has gradually faded away giving the pace to forms of territorial particularism¹⁰. In turn, they evolved in modern absolute monarchies. Nonetheless, while considering Hobbes' *Leviathan* (1651), it is possible to perceive how these components survived. Hence, they have been replicated in several European regions. Similarly, medieval forms of regulation, wherein custom¹¹ was put at their core, have been replaced by the law of the sovereign corresponding to his will¹². Within this frame, the nature of customs was subsidiary.

Thus, the pursuit of sovereign primacy over centrifugal centers of power connotes the Modern Age. And yet, this modern aspiration is still consonant with medieval frame of mind yet again *signified* by the thought of Dante (1313)¹³.

«Finally, if there is one particular kingdom, the end of which is that of the commonwealth with greater confidence in its tranquility, there must be one king who rules and governs; otherwise, not only will those who exist in the kingdom not reach their end, but the kingdom will also slide into destruction, according to that infallible Truth: "Every kingdom divided against itself will be desolated"».

*Si denique unum regnum particulare, cuius finis est is qui civitatis cum maiori fiducia sue tranquillitatis, oportet esse regem unum qui regat atque gubernet; aliter non modo existentes in regno finem non assecuntur, sed etiam regnum in interitum labitur, iuxta illud infallibilis Veritatis: "Omne regnum in se divisum desolabitur"*¹⁴.

In this given scenario, it can be also envisaged how the modern age norms are in line with this conceptual framework. Factually, they exclusively promote the standpoint of the sovereign to overcome every form of particularism eventually resulting into centrifugal forces. In contrast, customary practices are rooted in local and often decentralized norms. As a result, they may challenge the unitary authority envisioned by Hobbes creating tensions between community-based governance and the centralized control advocated by the *Leviathan*. From another angle, they can be considered rivalrous to royal regulatory frameworks.

In the Medieval frame of mind, customary practices were integral to feudal structures where local lords wielded significant influence. This decentralized governance model clashed with the aspirations of central authorities to consolidate power. The tension between local customs and overarching state regulatory frameworks became evident as states sought to establish a unified legal order¹⁵.

¹⁰ Inheritance of fees

¹¹ Basically, custom consists of the two following components: *diuturnitas* (=duration) and *opinio iuris sive necessitatis* (=belief in law or necessity). The former deals with the longevity of a practice holding significant weight in determining its legitimacy and acceptance within a community. Customary practices that endured over an extended period acquired a certain authority and were perceived as reflective of the collective will of the community. This temporal dimension contributed to the stability and continuity of legal norms, providing a sense of historical rootedness to the evolving legal framework. The latter underscored the importance of a shared belief within the community that a particular practice was not only habitual but also carried a legal obligation. This subjective element distinguished mere habitual actions from legally binding customs, emphasizing the necessity for individuals to perceive a customary practice as obligatory to reinforce its legal standing.

¹² «Quod principi placuit, legis habet vigorem: utpote cum lege regia, quae de imperio eius lata est, populus ei et in eum omne suum imperium et potestatem conferat». (= What has pleased the ruler possesses the force of law, as, for example, when the royal law, enacted by his authority, grants to the people and places upon them all its authority and power) (D., I, 4, 1 pr.)

¹³ De Monarchia, Liber I, V, §8.

¹⁴ *Ibidem*. «Finally, if we consider the individual kingdom, whose end is that of the city with greater promise of tranquillity, there must be one king to direct and govern. If not, not only the inhabitants of the kingdom fail of their end, but the kingdom lapses into ruin, in agreement with that word of infallible truth, "Every kingdom divided against itself is brought to desolation" ». Translation by A.H. Reinhardt, available at https://oll.libertyfund.org/title/reinhardt-de-monarchia#f1477_label_096

¹⁵ By way of example, we can consider Amadeus VIII's *Decreta seu Statuta*. This consolidation represents a seminal legal document that encapsulates a distinctive hybrid approach to governance at the turn of Medieval and Modern age. This XV Century set of decrees and statutes reflects the dynamic tension between the adaptability of local customs and the regulatory rigidity imposed by ducal norms. Amadeus VIII acutely sought to strike a delicate balance that accommodated the diverse customs and traditions prevalent within his domain. Recognizing the importance of local autonomy, the *Decreta* acknowledged the flexibility inherent in regional practices. It provided a nuanced framework that allowed communities to retain elements of their own legal and cultural heritage, fostering a sense of identity and continuity.

Simultaneously, Amadeus VIII recognized the necessity for a centralized authority to maintain order and stability across his territories. The *Decreta* imposed a set of ducal norms, establishing a standardized legal foundation transcending local variations. This duality created a unique governance model, wherein the adaptability of customary law coexisted with the stability offered by overarching regulations. For more details, see, I. Soffietti, C. Montanari, 'Il Diritto negli Stati sabaudi: fonti ed istituzioni (secoli XV-XIX)', Turin, Giappichelli, 2008, 25ff.

In that regard, Hobbesian theory of the so-called artificial man (Bobbio & Gobetti, 1993) can explain the systemic implications in this arrangement. At this point, the acts of the sovereign are justified because they move from ethical and political principles. In turn, these disciplines are «demonstrable like geometry for we have created the principles thanks to which we know what is just and what is fair, and what is unjust and what is unfair, that is, the cause of justice, which are laws and compacts» (Hobbes, 1656) ¹⁶.

To complete, «for Hobbes, the state is one of these machines, produced by human beings in order to compensate for the shortcomings of nature, and to replace the deficient products of nature with a product of human ingenuity, that is, an *artificium*» (Bobbio & Gobetti, 1993). In addition, Althusian argumentations (Althusius, 1617) ¹⁷ on the necessary hierarchical coordination for human forms of interaction reinforces this view.

Then, the *Leviathan* depicts the ultimate accomplishment of absolute thought. It collects the anonymous sum of all individuals deprived of any kind of particularism. At a visual level¹⁸, their bodies' merging sets the so-called artificial man corresponding to the State creation.



(Credits: [British Library](#) – detail from the frontispiece)

For the purpose of this study, it can be observed that these outputs' principles are common to the medieval experience. The difference lies in the possibility for the modern man of direct approaching the laws of nature also

¹⁶ In keeping with his *Leviathan*, Hobbes posited that individuals, like points in space, relinquish their natural liberty to a sovereign authority—the Leviathan—much as lines converge at a single geometric point. This convergence symbolizes the unity mandated by Hobbes for the preservation of order and security in society.

Again, the artificial man, a metaphorical construct representing the Leviathan, encapsulates another geometrical theorem in Hobbesian philosophy. Just as a geometrical figure unifies disparate points through its contours, the artificial man unifies individuals, subsuming their natural chaos into the ordered structure of the sovereign. This geometrical analogy illustrates the necessity of a centralized power, resembling the geometric center that governs the configuration of a shape.

Hobbesian political principles, therefore, exhibit a demonstrable nature when approached through the lens of geometric theorems. Much like the Euclidean precision that underlies mathematical reasoning, Hobbes' articulation of political order as geometric constructs provides a methodical framework for understanding and justifying the principles of unity and authority in his *Leviathan*.

¹⁷ More properly, the author introduces the concept of *societas* which constitutes a pivotal element in understanding the intricacies of societal organization. The term encapsulates the essence of political association, highlighting the interconnected and interdependent nature of social entities within a broader framework. Althusius's conceptualization of *societas* draws intriguing parallels with the notion of hierarchical coordination, where societal structures are envisaged as dynamic networks operating across various levels.

Inherent in Althusius's work is a nuanced perspective overcoming the mere acknowledgment of hierarchy. It incorporates the concept of *consociatio* or partnership. This addition underscores the cooperative aspect of hierarchical coordination, elucidating the idea that social entities collaborate within the framework of hierarchical structures. Althusius's articulation of *consociatio* resonates with Althusser's argument, emphasizing that hierarchical structures serve as essential frameworks for addressing inconsistencies at societal level. The cooperative nature of these associations is consonant with the necessity of hierarchical coordination in navigating the complexities of human interaction.

Crucially, Althusius introduces the theme of subsidiarity. Then, this principle converges with Althusser's concerns regarding conflict resolution within society. In sum, it posits that decision-making authority should reside at the lowest competent level, reflecting a shared belief that hierarchical coordination provides a structured means of addressing societal tensions. This alignment underscores the parallel emphasis both philosophers place on the practical resolution of conflicts through structured hierarchical mechanisms.

¹⁸ For the past, cf. the Elizabethan Great chain of being, wherein the monarch's aura has preplaced the cosmical order.

extending to government. Consequently, the dogmatic approach is gradually replaced by empiricism (Galilei, 1610)¹⁹, and later by the experimental method (Galilei, 1623)²⁰.

3. Blockchain functioning

In keeping with the above, some conceptual analogies can be established between the Leviathan and blockchain networks. Concretely, they both work as infrastructures creating cohesion among consociates. While the former does create an almost indissoluble bound as per the illustration above, the latter does in contrast establish more abstract forms of relation among data²¹, assets, and ultimately people. Simply put, it can be compared to a *fil rouge*.

More precisely, the blockchain is «a method of recording data - a digital ledger of transactions, agreements, contracts, anything that needs to be independently recorded and verified as having happened.

The big difference is that this ledger isn't stored in one place, it's distributed across several hundreds or even thousands of computers around the world. No one person or entity can control the data, which makes it transparent.

The data forms blocks that are encrypted into a continuous chain using complex mathematical algorithms. Once updated, the ledger cannot be altered or tampered with, only added to, and it is updated for everyone in the network at the same time» (BBC, 2017).

By way of example one can consider the sequence below (1-6) which describes the functioning of blockchain technology:

1. A wants to send money to B.
2. The transaction is represented as a block.
3. The block is transmitted to every node in the network.
4. The network nodes approve the transaction and validate it.
5. The next block can be added to the chain providing an indelible and transparent record of transactions.
6. Money goes from A to B

From another angle, blockchain can be understood as the conjunction of «two of the central legal devices of modernity: the ledger and the contract» (Maurer & DuPont, 2015).

Therefore, it is possible to grasp how this technology empirically enables the overcoming of territorial- physical limits. Specifically, the ductility of the blockchain allows it to be applied in the most diverse areas, making it a general-purpose technology on a par with the Internet and electricity (Skolnikoff, 1993)²².

¹⁹ In *Siderus Nuncius* groundbreaking work, Galileo shared his telescopic observations, including his discovery of the moons of Jupiter and the phases of Venus. This challenged the prevailing geocentric model and provided empirical evidence for the heliocentric Copernican system. Galileo's meticulous observations and evidence-based approach laid the foundation for the scientific method, emphasizing the importance of empirical observation, experimentation, and the rejection of purely theoretical reasoning. Galileo's work had profound implications for society, challenging established views of the cosmos and prompting a shift from an Earth-centred to a sun-centred understanding. The impact of *Siderus Nuncius* extended beyond astronomy, influencing the broader scientific community and encouraging a more empirical and observational approach in scientific inquiry. As Galileo stated in his work, «Nature is relentless and unchangeable, and it is indifferent as to whether its hidden reasons and actions are understandable to man or not». This sentiment encapsulates his commitment to the pursuit of objective truth through empirical investigation.

²⁰ In *The Assayer*, Galileo defends the Copernican heliocentric model and advocates for a scientific approach grounded in empirical evidence and mathematical reasoning. His famous assertion, «E pur si muove» («And yet it moves»), encapsulates his conviction in the Earth's motion around the sun, despite facing opposition from prevailing religious and scientific views. *Il Saggiatore* played a crucial role in advancing the scientific method by emphasizing the importance of experimental verification and mathematical precision. Galileo argued for a separation between the realms of science and theology, asserting that the book of nature is written in the language of mathematics.

²¹ Cf. the wide definition of data according to art. 4 GDPR whereby *personal data* means any information relating to an identified or identifiable natural person (*data subject*); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier 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 [...].

²² General Purpose Technologies (GPTs), also known as transformative technologies or foundational innovations, represent a distinct category of innovations that possess the capacity to reshape entire industries, economies, and societies. These technologies, characterized by their broad applicability and profound impact, have been a focal point of academic inquiry and policy discussions. This essay aims to

More specifically, if standard contracts have helped to significantly reduce transaction costs by making similar contractual categories homogeneous and therefore scalable, the blockchain reduces them to zero²³. Considering that the blockchain is a secure data structure and also «a protocol for establishing consensus on valuable information within a flat network without hierarchy» (Rejeb, 2019), the role of subjects certifying the validity or regularity of the transactions that take place is eliminated. On a practical level this is possible since «every user has a continuously authoritative copy. Anyone who has access to the ledger has access to the same full transaction history and the ability to verify the validity of all records» (Gervais, 2018).

Then, the code «enabling nodes in the network to interact with the data stored on a blockchain and act autonomously if some conditions are met is commonly known as a smart contract» (Ibidem).

First of all, smart contracts are «autonomous software agents [...] that automatically respond to inputs according to pre-programmed parameters» (Gervais, 2018). Thus, there is no link with the «complex social dimension of contracts (Rantala, 2017)» since «the finality of executed code reduces the agency of individuals involved» (Ibidem). As a consequence, law is completely excluded from this process with the code as the sole pre-eminent (social) actor (Rodrigues, 2018; Grimmelmann, 2015).

In sum, the syntagma smart contract is a misnomer (Deloitte, 2018) since there is no cognitive component as there is the automatic execution of pre-defined tasks upon the occurrence of certain conditions and there are no prerequisites to frame smart contracts within the contractual paradigm.

Taking up the Keynesian theory that places a biunivocal relationship between contract and enterprise (Davidson, De Filippi, & Potts, 2017), qualifying the latter as «a nexus of incomplete contracts» (Jensen, 1976), it is possible to understand how the blockchain manages to bridge market failures by zeroing asymmetries of information, and therefore transaction costs.

4. The legal implications of blockchain

After a preliminary analysis it can be observed how the blockchain transfers the cost of trust and coordination (Murck, 2017) to the network thus overcoming the Keynesian approach of managing transaction costs within the hierarchy of an organisation such as the firm. Therefore, considering smart contract's self-executing nature, the so-called trust paradox ensues, thereby «we have to be able to trust the blockchain, and to trust that no one controls it» (Ibidem).

elucidate the concept of General Purpose Technologies, examining their defining characteristics, historical instances, and their implications for economic growth and societal development.

At the core of the notion of General Purpose Technologies is their ability to serve as a foundation upon which a multitude of complementary innovations and applications can be built. GPTs are distinguished by their versatility, adaptability, and wide-ranging potential. They act as catalysts, triggering a cascade of innovations across various sectors, thereby driving economic growth and transformation.

Historically, GPTs have played pivotal roles in shaping the course of human civilization. The steam engine, for instance, marked a watershed moment during the Industrial Revolution. This GPT revolutionized transportation, manufacturing, and agriculture, ushering in an era of unprecedented economic expansion and societal change. Similarly, the information and communication technologies (ICT) of the late 20th century, including the Internet and the microprocessor, served as contemporary GPTs that revolutionized communication, commerce, and information dissemination, catalysing the modern digital era. The impact of GPTs on economic growth is profound and enduring. These technologies create a virtuous cycle of innovation, investment, and productivity gains. The initial investment in GPTs and their subsequent diffusion across industries result in increased productivity, reduced costs, and improved quality of goods and services. This productivity growth, in turn, fuels higher living standards, income growth, and enhanced competitiveness on a global scale. Furthermore, GPTs exert a transformative influence on societal structures and dynamics. They reshape labour markets, alter consumer behaviours, and redefine business models. In the context of the digital revolution, for example, GPTs have given rise to new forms of work such as the gig economy, altered the nature of employment, and posed fundamental questions about privacy, security, and ethical considerations in the digital age. Despite their transformative potential, the deployment of GPTs is not without challenges and risks.

In conclusion, General Purpose Technologies are foundational innovations that possess the capacity to reshape economies and societies. Their versatility, impact across multiple sectors, and enduring influence make them subjects of considerable academic and policy interest. Historical examples, such as the steam engine and ICT, demonstrate the profound economic and societal changes that GPTs can catalyse.

²³ Hence, blockchain manages to factually bridge market failures zeroing asymmetries of information and related transaction costs.

Given that blockchain is a secure data structure and 'a protocol for establishing consensus on valuable information within a flat network without hierarchy' (Davor and Sajter, 2019), the role of certifiers falls short.

We therefore move from a trust placed in subjects who are given a space to act to a trust in the authenticity of transactions.

In the first case, there is a reliance on third parties whose actions produce effects towards those who have entrusted them (VVAA, 2018). In the second case, on the other hand, trust is entirely placed in the blockchain «to bridge over the uncertainty about the future» (Ibidem).

To complete, the flexibility of tokens, representing a set of rules encoded in a smart contract can in turn represent «almost anything: a unit of virtual currency, an asset, physical object, or any other abstract entity» (Gervais, 2018). In this sense, it is also possible to understand how the blockchain can be freely configured to any application (Ibidem).

In light of these factors, «the paradox of erasing the need for trust» (Rantala, 2017) clearly emerges because «untrusted members can interact verifiably with each other without the need for a trusted authority» (Casino, Dasaklis, & Patsakis, 2019).

Interestingly, Reid Hoffman's vivid expression «trustless-trust» (Werbach, 2009) conveys this state of affairs. More precisely, «on a blockchain network nothing is assumed to be trustworthy... except the output of the network itself (Ibidem)»²⁴.

In short, it is not surprising to note how the blockchain fits into the evolutionary framework of contracts. Since the 19th century, there has been a progressive reduction at the factual level of a complete and bilateral formation and manifestation of consent.

5. Blockchain and the social contract

Given the peculiar nature of the blockchain, which makes it possible to overcome the relational dimension either between parties or between institutions, new changes and problems are emerging (Breu, 2018). Keeping in mind the institutional nature of the contract in the modern age these embryonal societal changes will be analyzed to subsequently verify the disruptive technology in the realm of law.

First, if the liberal paradigm based on property and contract saw exchange between parties as its essence, it now takes on a valence of *hyperindividualism* (Rantala, 2017) since state authority can be disregarded and transactions can be more confidential in nature. However, it is very clear that individual agency, within the framework of smart contracts, is no longer as indispensable as it was in the past. Some commentators speak in this regard of trans-individuality (Ibidem) since there is a functional representation of the individual taking part in a transaction without personal characteristics or qualities having relevance.

²⁴ Methodologically, a preliminary conceptual framework can be individuated into sentencing principle of *Bowen LJ, Sounders v Maclean* (1883) 11 QBD 327,343. The case concerned a contractual dispute between Sounders and Maclean, both of whom were engaged in the shipping industry. Sounders had chartered a ship from Maclean to transport cargo, and a dispute arose when the ship encountered delays, resulting in financial losses for Sounders. The central question before the court was whether Maclean, as the shipowner, had violated the trust Sounders had placed in him by not providing a seaworthy ship for the agreed-upon journey. Bowen LJ's judgment emphasized the fundamental principle that underlies all contractual transactions: the existence of a trust or confidence between the parties. In any contract, there is an implied duty of trust and confidence that each party must fulfil. In the case of a ship charter, the shipowner is entrusted to provide a seaworthy vessel, and the charterer trusts the shipowner to deliver the cargo safely. Bowen acknowledged that trust is implicit in many commercial transactions, particularly in transactions involving services, such as the chartering of a ship. He highlighted that trust forms the basis of all agreements and is essential for the smooth functioning of commerce. In the context of the *Sounders v. Maclean* case, trust was manifested in the expectation that the ship would be fit for its intended purpose. However, Bowen also clarified that this trust does not imply absolute guarantees. It is not an absolute or unconditional warranty. Instead, trust in contractual relationships is based on a reasonable standard of care and diligence. In the case of Maclean, the shipowner, he argued that Sounders could not expect an absolute guarantee of seaworthiness but rather a reasonable assurance that the ship was in a fit condition for the voyage. Bowen observed that, in this instance, the ship had been delayed by adverse weather conditions, which were unforeseeable and beyond the shipowner's control. Therefore, Maclean had not breached the trust by providing an unseaworthy vessel. Bowen's judgment in *Sounders v. Maclean* emphasizes that trust in transactions is an inherent element of contract law. It is founded on a reasonable expectation of performance, but it does not entail an absolute guarantee. Trust is vital for the efficient functioning of commerce, and the courts will protect this trust by ensuring that parties fulfill their contractual obligations with due diligence. In this case, the court found that Maclean had not violated Sounders' trust, as the delay was beyond his control, and he had acted reasonably in providing the ship. Thus, the judgment reinforced the importance of trust while maintaining a balanced view of what trust entails in contractual relations.

In this sense, the notion of «self-sovereign identity» (O'Dwyer, 1989) developed from the blockchain can clarify the content of hyper-individualism since it is no longer based on reputation or peer-verification, but exclusively «on the cryptographic storage of data about an individual» (Ibidem).

Apparently, this new system can only appear to be able to dispense with the intervention of third parties, since in the absence of prescriptive elements, it opens the door to power relations (De Filippi, & Loveluck, 2016) of an amorphous nature.

In other words, taking the viewpoint of techno-determinism, it is possible to demonstrate the disconnect between the linear development of technology and various social interests (Smicek, 2013).

Given the wide application potential and scalability of blockchain technology one can understand how these circumstances can come into being. More specifically, Hyaek's definition of the economy understood as «an organization or an arrangement in which someone conspicuously uses means in the service of a uniform hierarchy of ends» (Ibidem) allows the understanding of the inherently political element within blockchain technology.

The author then establishes a differentiation between the economy and the spontaneous order brought by the market identified by the concept of *catallaxy*²⁵ «characterized by a multitude of agents living within an 'extended order'» (Ibidem). Before continuing, it is worth noting the considerable affinities that this new socio-economic order has with the characteristics of medieval society. In that experience, it was not so much the ownership of subjective rights that mattered, but rather the centrality of things (*res*) around which the communities depended, drawing their sustenance from them.

Moving then towards an information-based economy we can find an equivalent 'token centrism' especially because tokens are susceptible to represent anything (Wang, & Nixon, 2021) and their presence is necessary in the world of the Fourth Revolution, given their scalability and wide range of application.

As a result, the comparison with the medieval experience sheds light on possible new regulatory schemes if we consider the eminent role of fraternities and guilds as centers of political, economic and social interest (Grossi, 1995; Genta, 2005)²⁶.

At the juridical level the result of these approaches had given fruit to the development of the custom as primary source and these elements will be kept in consideration to develop new possible strategies. To continue, the overlapping within the blockchain of different legal and social situations gives rise to competing regulatory modes since the blockchain becomes to all intents and purposes an «alternative governance institution» (Campbell-Verduyn, 2017).

Before analyzing possible methodologies, it is necessary to dwell on the delicate relationship between sovereignty and transactional privacy, also to be able to discern the constitutional value of blockchain as a form of social contract. This because blockchain governance's task is to identify at a decentralized level the same certification strategy for the validity of acts put in place by states and public administrations (Casino, Dasaklis, & Patsakis, 2019).

In the course of the discussion, we will therefore try to outline a possible regulatory balance between privacy as a public good and at the same time private (Solove, 2021) and the functioning of the blockchain as unlimited record keeping. Moreover, the remaining observations will try to provide new hermeneutic tools to frame the current economic-institutional scenario. More precisely, the new ICTs are under scrutiny for the Hobbesian test of sovereignty that can be traced back to the need to give up some freedom in order to gain it (Werbach, 2009). Against this backdrop, it is possible to establish a functional relationship in terms of interconnectedness among Leviathan's frontispiece, Global Governance functioning, and blockchain networks. The diagram below shows

²⁵ More precisely, «a catallaxy is a special kind of spontaneous order produced by the market by people acting within the rules of the law of property, tort, and contract» (Hayek: 1982, 269).

²⁶ Additionally, it is interesting to note the return of a collective dimension of right when thinking about the so-called new generation of rights as per the South American Constitutional experiences (e.g. Bolivia, and Ecuador).

the close affinity of Global Governance patterns²⁷ with the intrinsically geometric feature of the Hobbesian speculation as noted above.



(Credits: [Springer](#))

In the remainder of the paper, the attention will be drawn to Dantean method with a twofold purpose. Firstly, it would contribute to temper algorithmic determinism²⁸. Secondly, it would consequently hint at a more equitable facet of new forms of technology including but not limited to blockchain.

²⁷ Global Governance can be understood as the collective and cooperative management of global affairs by various actors, including states, international organizations, and non-state entities. In that regard, The EU directive of 26th June 2002 (2003/C 67/05) stands as a significant legislative initiative within the framework of European integration. This directive, emblematic of the EU's commitment to fostering a unified internal market, primarily focuses on regulatory harmonization to facilitate the free movement of goods and services across member states. With a keen emphasis on standardization, the directive seeks to diminish barriers to trade and enhance the efficiency of economic transactions within the EU.

Of notable importance is the directive's historical context, referencing the broader process of European integration initiated in 1992. This historical linkage underscores the directive's alignment with the principles established by the Single European Act of 1992, a foundational treaty that laid the groundwork for the creation of a single market. The directive, therefore, builds upon and reinforces the objectives set forth in 1992, showcasing the EU's enduring commitment to deepening economic integration.

²⁸ To clarify the above, let us briefly dwell on two examples that concern the activity of the judge, understood as an organ of the State[]. Let us consider, for example, the case of a debtor who does not pay the sum of money to the creditors stipulated in the judgment. In many jurisdictions, the creditor may proceed in such a case with execution on the debtor's assets. In this case, the competent court will usually order the debtor's employer to start deducting a certain amount from the debtor's salary to satisfy the creditor. This possibility is not, however, unlimited, as it is intended to ensure that the debtor maintains a minimum subsistence level. Obviously, the rationale behind this rule is the need to balance the creditor's right to obtain the money with the need to preserve the debtor's basic needs and rights. Similarly, a landlord seeking to enjoy eviction of the tenant would not be able to achieve this result with immediate effect: this is true even where there are legitimate grounds for eviction. National tenancy law requires that the tenant be given a minimum amount of notice to balance the landlord's right to regain possession of the house with the tenant's need to find an alternative solution for his accommodation. Therefore, the enforcement procedures established by state law require a certain period of time not only because instantaneous coercion is not practically feasible, but also and especially in order to balance the opposing interests of the parties. In contrast, the blockchain network does not - by its very nature - envisage either the presence of the judge (interpreter), or the balancing of the interests at stake, or (to give just one example) respect for human rights. And with respect to the two aforementioned examples, the smart contract could make an automatic deduction from the wages of the defaulting tenant and might be able to recover his money efficiently, without the need to rely on state-mediated procedures that impose an expected rate of return. In the case of eviction, the use of automatic locks managed through blockchain technologies can make it immediately impossible for the tenant to gain access to the house once the landlord activates the eviction through software scripts. The same does also apply to risk assessment procedure in insurtech to the possible detriment of the insured/weaker party.

6. The theory of supra-senses as a legal validity's testing over blockchain and other technological applications.

«And as the same idea can only be vary'd by a variation of its degrees of force and vivacity; it follows upon the whole, that belief is a lively idea product'd by a relational to a present impression, according to the foregoing definition».

(Hume, 1739)²⁹

In previous sections the relation among institutional patterns was the thrust of the dissertation. In these concluding remarks, the argumentation regards Dante's theory of supra-senses, and its potential to test the legal validity³⁰ of Fourth Revolution's technological applications. More precisely, Dante elaborated the above-mentioned theory while introducing to his mentor the ultimate accomplishments *Commedia* will have produced by the time of its publication. In that regard, Dante describes how the Biblical narration of flee from Egypt may contain other meanings (i.e. senses) beyond the mere literal one³¹. In that regard, the author underlines that these other additional significances are allegorical. In the light of their Greek etymology, they are susceptible of telling something different. In line with Dante, «this method of treatment, in order to make it clearer, can be considered in these verses: "In the exodus of Israel from Egypt, the house of Jacob from the barbarian people, Judah became its sanctification, Israel its power." For if we look at the letter alone, it signifies to us the departure of the children of Israel from Egypt in the time of Moses; if to an allegory, it is signified to us by our redemption made through Christ; if to the moral sense, it signifies to us the conversion of the soul from mourning and the misery of sin to a state of grace; if to the anagogical, it signifies the exit of the holy soul from the slavery of this corruption to eternally glorious freedom».

²⁹ A Treatise of Human Nature, Book I, Part III, Section III, *Of the influencing motives of the will*.

³⁰ «Legal validity governs the enforceability of law, and the standard of legal validity enhances or restricts the ability of the political ruler to enforce his will through legal coercion», Internet Encyclopaedia of Philosophy, <https://iep.utm.edu/legal-va/>

³¹ The biblical narrative of the Israelites' exodus from Egypt, as chronicled in the Book of Exodus, holds profound significance in Judeo-Christian tradition. This sacred event has inspired various interpretations throughout history, and Dante Alighieri's theoretical framework, as elucidated in the *Epistula* to Can Grande della Scala, offers unique insight.

This letter serves as a guide to understanding the allegorical dimensions of the *Commedia*. In this letter, Dante delineates the multiple levels of interpretation that can be applied to his work, emphasizing the allegorical, moral, anagogical, and literal senses. This hermeneutic approach provides a key to unlock the symbolic depth embedded in biblical narratives, including the Exodus.

Dantean *allegorical* interpretation of the Exodus transcends the historical account to unveil a spiritual journey reflective of the Christian soul's path towards salvation. The Israelites' departure from Egypt becomes a *metaphor* for the human soul's liberation from the bondage of sin and worldly entanglements. In Dante's schema, Egypt symbolizes the fallen world, marked by moral corruption and separation from divine grace. In this respect, the figure of Moses, as leader of Israelites out of Egypt, assumes a parallel significance in Dante's allegorical reading. Moses becomes a symbolic representation of divine grace and the guidance provided to the human soul on its journey towards the celestial realm. Thus, the crossing of the Red Sea results in a pivotal moment in the Exodus. More properly, it reflects the soul's passage through the trials and tribulations of life, with the parted waters signifying the transformative power of divine intervention.

Dante's emphasis on the allegorical dimension prompts readers to contemplate their own spiritual pilgrimage, recognising the challenges and temptations encountered on the path to redemption. In this vein, the Exodus narrative becomes a timeless parable illustrating the universal human quest for transcendence.

To continue, *moral* interpretation of the Exodus aligns with the broader ethical framework of *Commedia*. The moral implications of the Israelites' flight from Egypt invite reflection on the consequences of moral choices and the pursuit of virtuous living. In this sense, the journey towards the Promised Land, guided by divine moral principles, becomes a paradigm for the ethical transformation required for spiritual ascent.

Moreover, the moral consequences of disobedience, as exemplified in the Israelites' wandering in the desert, is consonant with Dante's exploration of sin and its consequences in the various circles of Hell. The Exodus, then, serves as a didactic narrative, cautioning against the pitfalls of moral deviation and emphasizing the importance of adhering to divine moral precepts.

To conclude, *anagogical* interpretation pertains to the heavenly or mystical realm. It enriches the Exodus narrative with the celestial dimensions. The Promised Land, towards which the Israelites journey, takes on an anagogical significance as a symbol of the ultimate destination of the redeemed soul – the celestial paradise.

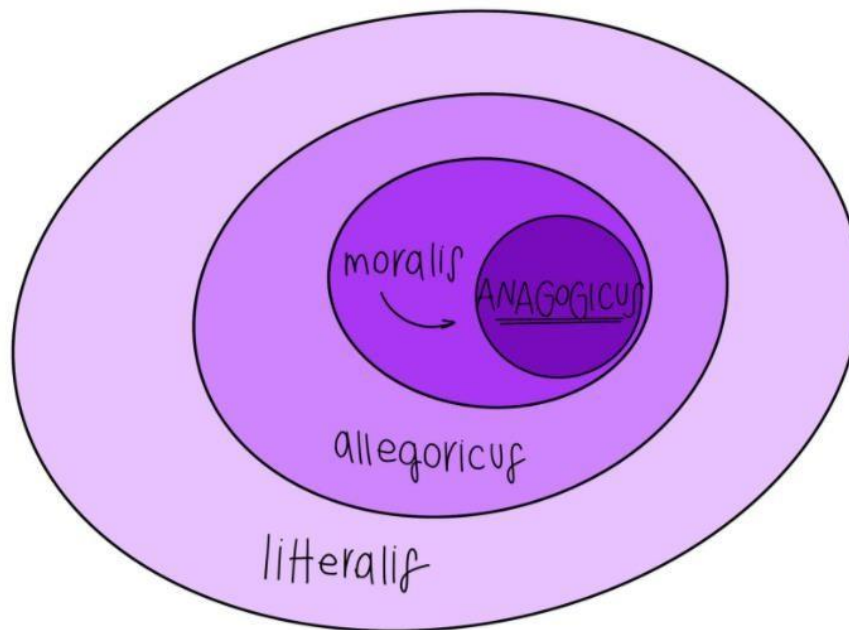
The hardships faced by the Israelites during their sojourn through the desert find resonance in Dante's portrayal of purgatorial trials. The anagogical interpretation invites contemplation on the transformative nature of suffering and purification, mirroring Dante's vision of Purgatory as a place of purgation and spiritual refinement.

The anagogical dimension also extends to the figure of Pharaoh, whose pursuit of the Israelites represents the perennial struggle between the forces of good and evil. In Dante's cosmic vision, the Pharaoh becomes an allegory for the demonic forces that seek to hinder the soul's journey towards the union with the divine.

Although allegorical, moral, and anagogical interpretations are emphasized, the historical and literal dimensions of biblical narratives are not dismissed. The Exodus, as a historical event, remains a pivotal moment in the narrative of human history and covenant with God. Against this backdrop, a nuanced approach acknowledging both the historical reality and the symbolic layers embedded in biblical accounts is fostered.

Qui modus tractandi, ut melius pateat, potest considerari in hiis versibus: "In exitu Israel de Egipto, domus Iacob de populo barbaro, facta est Iudea sanctificatio eius, Israel potestas eius". Nam si ad litteram solam inspiciamus, significatur nobis exitus filiorum Israel de Egipto, tempore Moysis; si ad allegoriam, nobis significatur nostra redemptio facta per Christum; si ad moralem sensum, significatur nobis conversio anime de luctu et miseria peccati ad statum gratie; si ad anagogicum, significatur exitus anime sancte ab huius corruptionis servitute ad eterne glorie libertatem (Epistula XIII)³².

Visually, the graph below depicts the relation among different senses.



(Credits: Isabella Blandino)

Overall, Dante's standpoint allows a multi-layered exam of the interests at stake, thus transcending the partial implications of technological applications (i.e. particular transactions involving a narrowed set of individuals). On the contrary, this multi-layered dialectic approach represents a means with which to embrace the complexity of blockchain networks and even of AI applications. Subsequently, it ultimately enables to ascertain their effects on society and their legitimacy. In concrete, this approach can contribute to give consistency to the above-discussed blockchain's *trans-individual collective* dimension in terms of legal validity³³. In the past, with traditional legal institutions (e.g. property and sovereignty), it appeared easier to make this test since there was a biunivocal correspondence with the object of regulation and the power over it. While arguing with semantics, De

³² <http://www.danteonline.it/italiano/opere2.asp> ; the bolds are mine

³³ In that regard, a parallel can be individuated in Gadamerian *Horizontverschmelzung* (1969), translated as the fusion of horizons. This conceptualization signifies the dynamic interplay between the interpreter and the interpreted. Gadamer rejects the idea of a fixed, unchanging horizon, positing instead a fluid, evolving fusion that occurs through dialogue. This transformative process involves a constant interweaving of pre-understandings with emerging insights, creating a nuanced and enriched understanding of the interpreted.

As a matter of fact, Gadamer challenges the Cartesian dualism that posits a clear separation between subject and object, emphasizing instead the interconnectedness of interpretation. The fusion of horizons rejects the notion of an isolated, objective truth and asserts that understanding arises from an ongoing, dialectical engagement between interpreter and interpreted.

As a consequence, this approach disrupts traditional notions of authority in interpretation. The fusion of horizons suggests that understanding is not a passive reception of meaning but an active, participatory engagement. In this way, Gadamer challenges hierarchical structures of interpretation and opens up the possibility for a more egalitarian and dialogical approach to understanding. In sum, such an understanding of blockchain networks can concur to establish more effective protection of rights. In that regard, it is possible to frame privacy as something private while moving from its inherently collective dimension. More properly, it can be compared to safe environment whose integrity ensure its enjoyment by each member of a community.

Saussure's theory on the correspondence between *signified* and *signifier* was sufficient to set a relation among terms, concepts, and ultimately between society and institutions.

Today, by contrast, this paradigm has been inverted and exponentially multiplied considering the difficulty in determining and/or separating what is regulated and who/what exercises an authoritative power (e.g. tokens, NFTs, and blockchain trustless trust system).

To continue, the advantage of this hermeneutic approach provides several criteria to qualify any output of technological applications as righteous because it does also include moral elements³⁴ that technological determinism tends to exclude a priori. To this end, this interpretive technique can concur to fill the gaps among domestic sets of rules (De Vauplane, 2018), and contribute to qualify open questions in law, technology, and society once the new notion of Sovereignty as control over data (Floridi, 2020) is taken into consideration. From another angle, this method would enable to solve, and give consistency to formalism. It can be understood as «that form, terribly empty, and sublime [...] as the sole rigorous, and evident result of every philosophical ethics, we will be condemned to ignore the world's richness and qualities, and to renounce every certainty on qualities, and their relationships» (Scheler, 1927).

To continue, the following relation for identity can synthetically take into account Scheler's standpoint, the *trans-individual collective* dimension of blockchain networks, and Global Governance dynamism. At the same time, it does embed Dantean theory of supra-senses.

$$\text{Identity } A=B + A\leftrightarrow B$$

In that, regard such a multi-layered approach would rather concur to establish a synthesis merging different commonly held conceptions of identity, rather than providing mutually excluding frameworks for the definition of new patterns of legal validity³⁵. Differently put, this technique aims at creating the methodological basis to establish an equitable basis for the re-qualification of the legal discourse before these unprecedented changes.

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³⁴ «Not every form of de facto governance is legal; only forms of governance that comply with certain minimal moral constraints are properly characterized as legal» (Marmor, 2008).

³⁵ From the one hand, Derrida (1967) argues that identity is not a stable or fixed entity but is rather a product of linguistic and cultural constructs. Thus, any attempt to define identity is bound to be fraught with contradictions and paradoxes. In this respect, language operates through a system of differences, and identity is never fully present but is always deferred, as meaning is contingent upon a network of linguistic signs. The deconstruction of identity, therefore, involves exposing the gaps and contradictions within discourses that seek to establish fixed identities. On the other hand, Lévi-Strauss (1949) contends that cultural phenomena, including identity, can be understood through underlying structures that govern human thought and behaviour. More properly, identities are not arbitrary but are instead products of underlying structures that organize and give meaning to social phenomena.

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