HUMAN AUTONOMY AND ARTIFICIAL INTELLIGENCE AGENCY. A NEW DILEMMA FOR CONTRACT LAW: AUTOMATED CONTRACTING OR *INTUITU HOMINI* CONTRACTS

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Automation in forming and performing contracts is proving to be a major revulsive for Contract law. Contract law evolves with the transformation of our economy and society, and today's economy is not only digital, but essentially automated. The penetration of AI in contracting involves 'distancing humans' from contracts and challenging the notion of (human) autonomy and its meaning and significance for Contract law. This Paper traces how Contract law, with the contribution of Italian legal doctrine, has confronted and resolved various dilemmas concerning the conception, role and meaning of contracts in society. Today, automation represents a new and challenging dilemma which means the literal 'disumanizzazione del contratto': automated contracts or 'intuitu homini *contracts'. Contract law has to decide (whether and) how to embrace 'human distance' or even 'human absence' in 'automated contracting'. This Paper advocates for the legal recognition of automated contracts following the UNCITRAL Model Law on Automated Contracting and the ELI Principles on Automated Decision-Making, while proposing and coining the emergence of* 'intuitu homini *contracts' in which parties limit the use of automated systems in forming or performing their contracts.*

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I. CONTRACT LAW IN CONTEXT AND IN EVOLUTION: THE DILEMMAS

Contract law evolves with the transformation of our economy and society. Contract law rules condense a certain specific conceptualization of economic relationships and social interactions, their meaning, and their role in a particular historical societal model. Contract law rules themselves, but much more eloquently, meaningfully, and visibly, the interpretation of such rules by scientific legal doctrine and courts have accommodated and been permeable and sensitive to changes in the market and commercial praxis, to the emergence of new business models, to the transformation of socio-economic contexts, to the evolution of societal concerns and worries, and notably in recent decades, to the acceleration of technological progress and its impact on our lives and our living in society. Normally, notions and rules have evolved pushed by the need to face and solve dilemmas concerning the conception, role, and meaning of contracts in society. Individualism versus collectivism, autonomy versus authority, monism versus pluralism, equality of bargaining power versus asymmetries and vulnerabilities, consent versus adhesion.

Italian legal doctrine has not been oblivious to this permanent and adaptative development of Contract law nor to the dilemmas to be addressed.[1] Rather, Italian scholars have acknowledged, reflected on, and contributed to the legal debate on the mutation, even 'transfiguration', of the notion of contract and to the dilemmas that have marked the turning points in its evolution. Italian scholars have noted and explained[2] how the conceptualization of 'contract', as a balance between 'autonomy' and 'heteronomy', as a transition between the prevailing notion of the contract as a pure expression of party autonomy and as a recognition and a product of a certain intervention of State-based legal systems, distils a particular historical contractual 'culture'[3] embedded in legislation (the Codes) or transpiring from society.[4] Italian doctrine has perceived[5] how the classical and codified notion of contract, conceived as a single and individual act, was indeed an abstraction, that ignored the quotidian economic life. In the Italian legal literature it has not gone unnoticed how the classical and monist contractual theory did not embrace neither the pluralism of contractual categories on the basis of varying factors nor the problem of asymmetric contracts[6] and consumer transactions.[7] Italian scholars have wisely unveiled the dilemma

[1] S. Rodotà, *Il diritto privato nella società moderna* (Bologna: il Mulino, 1st ed, 1971).

[2] G. Chiodi, 'Ogni contratto ha la sua storia (dialogando con Guido Alpa)', in G. Conte et al eds, *Dialoghi con Guido Alpa. Un volume offerto in occasione del suo LXXI compleanno* (Roma: Roma Tre Press, 2018), 77-92.

[3] G. Alpa, *Il contratto in generale. Principi e problemi* (Milano: Giuffrè, 2021).

[4] G. Alpa, *La cultura delle regole. Storia del diritto civile italiano* (Bari-Roma: Laterza, 2009).

[5] E.F. Vassalli, 'Arte e vita nel diritto civile', in Id, *Studi giuridici* (Roma: Società Editrice del Foro Italiano, 1939), II.

[6] V. Roppo, 'Prospettive del diritto contrattuale europeo. Dal contratto del consumatore al contratto asimmetrico?' *Il Corriere giuridico*, 267-282 (2009).

[7] T. Ascarelli, 'Teoria della concorrenza e interesse del consumatore' *Rivista trimestrale di diritto e procedura civile*, 873 (1954); G. Chiodi, 'Un pionere della giustizia contrattuale. Lorenzo

between the idealized agreement based on consent and resulting from a dialogued and negotiated meeting of minds[8] in the classical theory and the dehumanized, standardized contracts of adhesion[9] enabling mass trade in modern economies.[10]

Contract law (Private law)[11] remains under pressure, facing dilemmas that shape the contracts *del Terzo Millennio*.[12] The dynamic digitalization process redefines the modern economy, as well as the greater society,[13] and alters the way contracts weave together relationships of exchange and cooperation. It is a revolution that penetrates all aspects of social and economic organizations, business activities, and commercial transactions. Consequently, contract law has had to rely on its inherent flexibility to address the challenges of digitalization (*digitality*).[14] The emergence of AI marks the most transformative stage of digitalization, for it revolutionizes the automation of legally significant tasks and procedures.

After a successful accommodation of contract law to embrace electronic contracting, everything suggests that the digital economy is entering a new stage that will redefine its backbone and give a new and full meaning to 'digital living' or 'living in digital'.[15] A new evolutionary stage in which Artificial Intelligence (AI) is one of the most profoundly transformative and disruptive vectors of change. AI systems that are not only automating tasks and procedures, but performing actions with contractual meaning and legal relevance. It is the emergence of 'automated contracting'. 'Contracts without humans'... Is there then a new dilemma: automated contracting or *intuitu homini* contracts? The transition from the debate on *scambi*

Mossa e i contratti di adesione' *Quaderni fiorentini per la storia del pensiero giuridico moderno*, 249-293 (2016); V. Roppo, *Il contratto del duemila* (Torino: Giappichelli, 4th ed, 2020); C. Vivante, *I Difetti Sociali del Codice Di Commercio. Prolusione (1899)* (Whitefish: Kessinger Publishing, 2010).

[8] N. Irti, 'Scambi senza accordo' *Rivista trimestrale di diritto e procedura civile*, 347-364 (1998).

[9] G. Oppo, 'Disumanizzazione del contratto?' *Rivista di diritto civile*, 535 (1998); M. Bianca, 'Acontrattualità dei contratti di massa?' *Vita notarile*, 1120-1128 (2001); F. Gazzoni, 'Contatto reale e contatto fisico (ovverosia l'accordo contrattuale sui trampoli)' *Rivista di diritto commerciale*, 655 (2002).

[10] G. Alpa, *Responsabilità dell'impresa e tutela del consumatore* (Milano: Giuffrè, 1975); E. Roppo, *Contratti standard. Autonomia e controlli nella disciplina delle attività negoziali di impresa* (Milano: Giuffrè, 1975).

[11] S. Grundmann et al, 'New Private Law Theory - A very Brief Introduction' 23 *German Law Journal*, 801-804 (2022).

[12] L. Gatt, *Il Contratto del Terzo Millennio. Dialogando con Guido Alpa* (Napoli: Editoriale Scientifica, 2018).

[13] A. Rodríguez de las Heras, 'La migración digital' *TELOS: Cuadernos de comunicación, tecnología y sociedad*, 4-6 (2004).

[14] On the concept of digitality, T. Rodríguez de las Heras Ballell, 'The Emergence of Digital Communities: Generating Trust, Managing Conflicts, and Regulating Globality... Digitality', in C.J. Greenhouse and C.L. Davis eds, *Landscapes of Law: Practicing Sovereignty in Transnational Terrain* (Philadelphia: University of Pennsylvania Press, 2020), 250-277.

[15] In tribute to A. Rodriguez de las Heras, 'La vida en digital' *El Pais*, available at https://tinyurl.com/ydy8zwv5 (last visited 30 May 2025): 'La vida en digital' is an imagined scenario for reflection, not a prediction. Through it move the alephites, prosthetic beings, in continuous connection with the digital Aleph, because the Net is a phenomenal contraction of space and time, like the Borgesian Aleph, and not a mesh.

senza accordo to '*scambi…contratti senza umani*' is profound and essential. The *disumanizzazione del contratto* takes on a literalness and realism that surpasses all metaphor.

Global legal scholarship has accepted the challenge and a lively debate is underway.[16] Furthermore, UNCITRAL has taken up the baton and lived up to its tradition in setting the scene and laying the uniform foundations in electronic commerce with the adoption of the UNCITRAL Model Law on Automated Contracting (MLAC).[17] Profound reflections and intriguing solutions to the dilemma have crystallized in this effort of international legal harmonization. Italian legal tradition, creative, robust, and well-trained in coping with previous dilemmas, is uniquely placed to contribute (continue contributing) to this challenging, and probably unprecedented, dilemma. Rethinking contracts in the tension, the conflict, or maybe the symbiosis between human autonomy and AI agency.

II. VALIDITY AND EFFECTIVENESS OF AUTOMATED CONTRACTING: THE DILEMMA OF 'HUMAN DISTANCE'…OR 'HUMAN ABSENCE' IN CONTRACTING

1. From Electronic Contracting to Automated Contracting: The Principle of Non-Discrimination in UNCITRAL Texts

Under the MLAC, automated contracting is meant to describe the use of automated systems to form or to perform contracts (Art 2.1 of the MLAC). As the Guide to Enactment explains, the expression 'to form or to perform contracts' is intended to cover any and all stages of the contract life cycle, including negotiations and precontractual dealings and termination of contracts. The definition of 'automated system' pursuant to Art 1 MLAC reveals the key and distinctive features of automated contracting and the source or reason for the dilemma: 'computer system that is capable of carrying out actions without the necessary review or intervention of a natural person'. Despite the conciseness of the definition, it is aimed to embrace AI systems as described in internationally recognized notion such as the one recommended by OECD,[18] after its latest revision,[19] and incorporated in

[16] 'ELI Guiding Principles and Model Rules on Digital Assistants for Consumer Contracts' of the European Law Institute (ELI), available at www.europeanlawinstitute.eu (last visited 30 May 2025). ELI has also contributed to this debate with the adoption of the 'ELI Guiding Principles on Automated Decision-Making in the EU' available at https://tinyurl.com/saccvh5r (last visited 30 May 2025).

[17] 'UNCITRAL Model Law on Automated Contracting' finalized by the UN Commission on International Trade Law, available at https://tinyurl.com/yz5yrx7a (last visited 30 May 2025).

[18] See OECD, AI terms & concepts: available at www.oecd.ai/en/ai-principles (last visited 30 May 2025). OECD Recommendation of the Council on Artificial Intelligence of 22 May 2019 OECD/LEGAL/0449 available at legalinstruments.oecd.org .

[19] OECD *Recommendation of the Council on Artificial Intelligence*, OECD/LEGAL/0449 revision of 8 November 2023: 'An AI system is a machine-based system that, for explicit or

the European Regulation on AI (AI Act).[20]

Automated contracting embodies a new challenge to Contract law that goes far beyond the challenges of electronic contracting that have been already overcome. In fact, electronic contracting, a few decades ago, posed a challenge to legacy contract law.[21] Traditional contract-law rules had been ideated, formulated, and applied, paradigmatically, for face-to-face and in-writing distance transactions highly dependent upon the available medium, dominantly paper, and the means of communications for sending and receiving relevant declarations and other statements between the parties. Electronic contracting confronted then traditional contract law with the admissibility of the digital medium as a functional equivalent to writing in paper and the use of electronic communications[22] to express and convey declarations of will and other statements with pre-contractual, contractual or contract-performance relevance. It was essentially a formal dilemma, or a dilemma of form. In essence, substantive rules on contracts remained unchallenged.

Automated contracting poses a substantive dilemma instead. Rethinking Contract law in 'non-human terms'. To 'replace' human actions by machine-based actions in and for the purposes of forming and performing contracts. Such a radical perspective of assuming automated contracting as 'contract without humans' can be criticized and deemed unrealistic or simply inaccurate. But to assess and gauge the criticality of the dilemma, it is more effective to approach the challenge from such a radical perspective. Even just in a metaphorical way so as to highlight that the dilemma is not simply in the form but in the substance: non-human actions that may have contractual relevance and legal recognition.

That is to say, in order to construct a legal regime for automated contracting, one must necessarily start from the assumption that the use of automated systems is not, by itself, an insurmountable impediment to recognizing the validity and effectiveness of the resulting actions, declarations and legal transactions and

implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment'.

[20] European Parliament and Council Regulation (EU) 2024/1689 of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) [2024] OJ L2024/1689.

[21] UN Commission on International Trade Law, 'UNCITRAL texts in the 1996 Electronic Commerce Model Law, with Guide to Enactment, 1996 with additional article 5 *bis* as adopted in 1998', available at digitallibrary.un.org; UN Commission on International Trade Law, 'UNCITRAL Model Law on Electronic Signatures with Guide to Enactment 2001', available at uncitral.un.org; 'United Nations Convention on the Use of Electronic Communications in International Contracts' 60/21, Resolution adopted by General Assembly on 23 November 2005, available at https://tinyurl.com/53s56454 (last visited 30 May 2025).

[22] 'Electronic communication' is defined as 'any communication that the parties make by means of data messages'; while 'data message' is defined as 'information generated, sent, received or stored by electronic, magnetic, optical or similar means, including, but not limited to, electronic data interchange, electronic mail, telegram, telex or telecopy'.

allow them to deploy, in such a case, all the effects provided for in the legal system.

This recognition is useful only if we acknowledge that the foundational principle of contract law, including application and interpretation, may not be fully accommodated to AI contracting. A strict and radically anthropocentric interpretation of contract law might find it difficult to fully or partially accept contracting with 'human distance', or even 'human absence' (capacity, consent, error, will, fault, intention).

Electronic commerce, although its impact was much less extreme and substantial as it concerned the medium and means of manifestation and communication,[23] also required anchoring legal certainty with the recognition of its legal effects.

This principle of recognition has traditionally been formulated in the texts of Uniform Law for International Trade as a (negatively worded) rule of non-discrimination. Thus, both the UNCITRAL Model Law on Electronic Commerce, 1996 (hereinafter, MLEC) and the UN Convention on the Use of Electronic Communications in International Commerce, 2005 (hereinafter, CEC) expressly provide for such recognition with the formula 'shall not be denied legal effect, validity or effectiveness... on the sole ground that'. Thus, information in data messages,[24] declarations of the parties expressed in data messages or a contract formed[25] by or in the form of electronic communications[26] shall not be denied legal effect solely on such grounds. In the *acquis communautaire* and in national law, however, a positive formulation of this recognition has been chosen in the form of a conditional statement - 'contracts concluded by electronic means shall produce all the effects provided for by the legal system, when consent and the other requirements necessary for their validity are met'[27] - which is aimed precisely at ensuring their recognition and removing any obstacle that would deprive them of validity and effectiveness.[28]

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[23] In the legal literature, some scholars advocate against supplanting contractual regimes with new principles for electronic contracting rather than supplementing the existing ones merely with technological considerations. E. Mik, 'The Unimportance of Being "Electronic" or Popular Misconceptions about "Internet Contracting" ' 19 (4) *International Journal of Law and Information Technology*, 324-347 (2011).

[24] Art 5 of the UNCITRAL Model Law on Electronic Commerce (MLEC): 'Information shall not be denied legal effect, validity or enforceability solely on the grounds that it is in the form of a data message'.

[25] Art 1, para 1, UNCITRAL Model Law on Electronic Commerce (MLEC): 'In the formation of a contract, unless otherwise agreed by the parties, an offer and its acceptance may be expressed by means of a data message. A contract shall not be denied validity or enforceability solely on the ground that a data message was used in its formation'.

[26] Art 8, para 1, of the United Nations Convention n 21 above: 'A communication or a contract shall not be denied validity or enforceability solely on the ground that it is in the form of an electronic communication'.

[27] In the Spanish law on electronic commerce, Art 23, *coma* 1, *ley de* 11 *de julio* 2002, *no 34 de servicios de la sociedad de la información y de comercio electrónico*, BOE no 166 of 12/07/2002.

[28] According to Art 9, para 1, of the European Parliament and Council Directive 2000/31/EC of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (Directive on electronic commerce) [2000] OJ L178/00

This principle of recognition of electronic contracting is not, however, sufficient to give the same legal coverage to automated contracting. The functional equivalence that makes it possible to equate the legal effects of an electronic communication with those of a declaration of will expressed by other traditional means does not fully recognize the equivalence of actions, declarations and decisions that have been generated, executed and 'adopted' by AI systems, without human intervention. Ultimately, automated contracting deviates from classical contracting concepts in a manner fundamentally different from the challenges presented by electronic contracting. While in e-commerce it is the medium, in automated contracting it is the 'autonomous' action of the system, without human intervention, in the very process of decision-making and execution of the action.

The assumption of varying levels of autonomy in AI systems is undoubtedly the fracture point in a continuing line of reasoning on the pure basis of functional equivalence.

In this respect, the remarks of the UNCITRAL Secretariat's Explanatory Note to Art 12 of the CEC[29] are particularly revealing. This provision provides an extremely valuable legal basis for automated contracting, but, as it can be seen from the explanatory comments to the text itself, not sufficient in the current state of scientific and technical progress. Art 12 contains very interesting and very useful elements for analysis. The provision is formulated with the classic formula of the principle of non-discrimination ('shall not be denied validity or enforceability') and refers, clearly and literally, to contracting resulting from the interaction of automated systems (Human-to-Machine, H2M, or M2M, Machine-to-Machine). Unlike electronic contracting, which dominates the provisions of the rest of the instrument, this article rightly draws attention to the 'lack of intervention by a natural person'. It is not the medium, not the fact of using electronic communications that are to be disabled as grounds for denying validity and effectiveness; the scope of application of Art 12 CEC is indeed automated contracting.[30] In the Explanatory Note, the commentary to the provision is, if possible, more revealing in stating that the increasingly frequent use of automated message systems, which it goes so far as to call 'electronic agents' (today normally named digital assistants, AI-driven assistants or similar) has invited

'Member States shall ensure that their legislation allows contracts to be concluded by electronic means. Member States shall ensure in particular that the legal regime applicable to the contractual process does not hinder the actual use of contracts by electronic means, nor lead to depriving such contracts of legal effect and validity by reason of their conclusion by electronic means'.

[29] Art 12 of the United Nations Convention on the Use of Electronic Communications n 21 above, 'A contract formed by the interaction between an automated message system and a natural person, or by the interaction between automated message systems, shall not be denied validity or enforceability on the sole ground that no natural person has reviewed or participated in each of the various acts performed through the systems or the contract resulting from such acts'.

[30] Art 4, letter g, United Nations Convention on the Use of Electronic Communications in International Contracts, n 21 above 'Automated message system' means a computer program or an electronic or other automated means used to initiate an action or to respond to transactions or data messages, which operates, in whole or in part, without intervention or review by a natural person each time an action is initiated or a response is generated by the system'.

a review in some legal systems of

> 'the traditional legal doctrine on contract formation in order to determine its applicability to contracts that are concluded without the intervention of a natural person'.

As explained in the commentaries, while there was no reason not to recognize the validity of contracting by means of automated message systems, even if they were not explicitly provided for in the existing texts (MLEC, Vienna Convention),[31] an express recognition would favor the use of automated systems and provide their use with greater legal certainty.

This provision is undoubtedly a fundamental anchor for the legal regime of automated contracting, but its scope is consciously limited when projected onto the current state of development of technology. In the Explanatory Note, it is noted that ('at present') the attribution of the actions of an automated message system to a natural or legal person is based on a deterministic conception of programming. In other words, Art 12 of the CEC is based on the assumption that the technical parameters by which an automated system is programmed determine its ability to function. And it recognizes that the possibility that new developments in AI allow the system to learn, to modify instructions or to set new objectives with certain levels of autonomy goes beyond the concept of automatism on which the principle of recognition underpinning the provision is based (Art 12 of the CEC).

The differential characteristics of AI systems as learning systems with varying levels of autonomy overwhelm the nevertheless courageous and ambitious solution that integrates Art 12 of the CEC into the Uniform Law on International Trade.

2. Principle of Non-Discrimination and Law-Compliant Automated Decision-Making in the ELI Guiding Principles

Therefore, the ELI Guiding Principles for Automated Decision-Making[32] propose a principle of explicit recognition formulated as a principle of non-discrimination[33] of automated decision-making (ADM) on the sole ground of their automated nature. The material scope of application of these principles is broader than the notion of automated contracting. While it is largely overlapping as it includes decisions affecting or influencing the contractual position of the 'affected person'[34] , their

[31] United Nations Convention of 11 April 1980 on Contracts for the International Sale of Goods (Vienna, 1980), available at https://tinyurl.com/2p87ctwe (last visited 30 May 2025).

[32] European Law Institute (ELI) Guiding Principles for Automated Decision-Making in the EU 2022, available at https://tinyurl.com/mry32nvw (last visited 30 May 2025).

[33] Guiding Principle 2: Non-discrimination against ADM: 'As a general rule, ADM shall not be denied legal effect, validity or enforceability solely on the grounds that it is automated'.

[34] The term 'affected person' is used in the ELI Guiding Principles for ADM to describe 'the natural or legal person interacting with the ADM, either being the person affected by the final decision, or the person using or relying on, for subsequent purposes, including subsequent decision-

rights and interests, it also extends to other actions or decisions which may not be linked to a contractual process at one of its life-cycle stages (decision of a public authority in relation to an administrative file, notification in a judicial procedure, infringement of an industrial property right). In view of this lack of full overlap in the scope of application, it is nevertheless interesting to use these principles in the analysis of automated contracting to the extent that they are applicable.

The principle of non-discrimination (Guiding Principle 2), which is an essential enabling element of automated contracting, does not, as a principle, prevent the legislator from deciding to adopt specific or additional rules for the use of automated systems for certain purposes. These rules may range from design requirements to transparency requirements[35] or explainability requirements. Failure to comply with these requirements may entail legal consequences of various kinds, but it does not deviate from the principle of non-discrimination; rather, it preserves and builds on the non-discrimination principle. This strong statement is valid at least at this point of the analysis where the general principles on which to build the legal regime of automated contracting are being presented, but when more specific legal questions are raised, it will be necessary to return to this principle in order to contextualize and qualify it. Thus, for example, if it were regulated that AI systems for consumer virtual/digital assistants must be designed to allow the consumer to choose the main purchase criteria and deactivate the purchase functionality at any time without losing the other utilities of the system, non-compliance with this design requirement would result in administrative sanctions, a ban on supply in the European market or loss of certification.[36] This is the aspect that does not impact on automated

making, the output of the ADM (prediction, recommendation, rating, ranking). The affected person can be a consumer or a professional user'.

[35] For example, the simple transparency requirements for automated rating and ranking systems imposed by European Parliament and Council Regulation (EU) 2019/1150 of 20 June 2019 on promoting fairness and transparency for professional users of online intermediation services [2019] OJ L186/19 at the Art 5, paras 1 and 2: 'Online intermediary service providers shall state in their general terms and conditions the main parameters governing the ranking and the reasons why those parameters have a higher relative importance than other parameters. Online search engine providers shall set out the main parameters which, individually or collectively, are most significant in determining the ranking and relative importance of those main parameters, by providing a publicly and easily accessible description, written in a simple and comprehensible manner, in the online search engines they offer. The description should be kept up to date'.

[36] As in other sectors with a high regulatory burden and a strong technical component, certification also plays an important role in business management and the implementation of AI systems. Alongside previous certifications, International Organization for Standardization (ISO) has approved ISO/IEC 42001, the first international management system standard for AI that is certifiable. The standards set out requirements for establishing, implementing, maintaining and continually improving an AI management system with the aim of ensuring that systems are developed and used responsibly. To this end, it is interesting to note how the certification criteria essentially embody the guiding principles for the development and use of AI systems that have crystallized in the various instruments studied: reliability, transparency and responsible use; respect for ethical principles and values such as fairness, non-discrimination and respect for privacy; mitigation of risks and implementation of appropriate preventive and mitigation measures; prioritization of human well-being, safety and user experience in the design and deployment of

contracting in a pure private-law sense. However, non-compliance with this specific requirement may also have a direct or indirect impact on the rules are being developed for automated contracting. The absence of consumer control over the decisional criteria of the virtual/digital assistant could be a factor for non-attribution of the decision or for assuming/presuming a consent-invalidating error. It could also be relevant in a liability action for lack of conformity or on grounds of defective product. Suffice it here to reinforce the principle of non-discrimination as the basic rule of the legal system for automated contracting.

Similarly, but in the opposite sense, the principle of non-discrimination also does not imply or preclude the legislator from prohibiting or limiting the use of automated systems for certain purposes or in certain decisions. The EU regulatory framework for AI illustrates these scenarios very vividly. Art 5 AI Act prohibits certain AI practices on the basis of their use or purpose, subliminal techniques to alter a person's behavior with a risk of causing harm, systems based on inferring emotions in certain areas and for certain purposes. Designed as a regulatory framework, its infringement carries penalties (including administrative fines) - Art 71 of the AI Act. Beyond the AI Act, which provides the most obvious framework for identifying prohibitions or limitations on the basis of intended use or purpose, there are also other restrictions, notably on the full automation of certain activities or processes in the DSA[37] - Art 12,para 1, -[38] on the choice of means of communication between service providers and recipients or Art 20, para 6, of the DSA on complaint-handling mechanisms.[39]

The validity and effectiveness of automated decisions' non-discrimination is limited exclusively by the reason of their automated nature. Hence, it does not remedy other grounds that may be invalidating or limiting, nor does it operate independently of the requirements and rules applicable to the legal situation in each case. Therefore, Guiding Principle 2 operates in conjunction with Guiding Principle 1 (Law-compliant ADM)[40] which establishes a rule of compliance in accordance with the equivalent non-automated decision. One might think that this statement is too self-evident and, because it is obvious, useless. However, it has several ramifications or derivatives that allow for more far-reaching reflections.

AI; compliance with applicable laws.

[37] European Parliament and Council Regulation (EU) 2022/2065 of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act) [2022] OJ L277/22.

[38] Art 12, para 1, Regulation (EU) 2022/2065: 'Providers of intermediary services shall designate a single point of contact to enable recipients of the service to communicate directly and rapidly with them, by electronic means and in a user-friendly manner, including by allowing recipients of the service to choose the means of communication, which shall not solely rely on automated tools'.

[39] Art 20, para 6, Regulation (EU) 2022/2065: 'Providers of online platforms shall ensure that the decisions, referred to in para 5, are taken under the supervision of appropriately qualified staff, and not solely on the basis of automated means'.

[40] Guiding Principle 1: Law-compliant AMD. An operator that decides to use ADM for a particular purpose shall ensure that the design and the operation of the ADM are compliant with the laws applicable to an equivalent non- automated decision-making system.

First, it contains a warning against circumvention by the mere use of an automated system. The use of an automated system cannot be an excuse to avoid compliance with the applicable law. The applicable law must be determined by reference to the equivalent legal situation if an automated system had not been used. This perspective transforms such a basic rule into a useful design and implementation guideline. Ultimately, the use of automated systems does not require an express legal authorization. It relies on the binomial of non-discrimination and law compliance to ensure legal recognition and, from there, to attach to it the legal regime that corresponds by equivalence thus, if it is a banking contract, it will comply with the regulations that are applicable to it regardless of its automation.

Second, in its positive variant as an active obligation to ensure law compliance, it raises some interesting questions. The internal and external complexity that defines the functioning of an AI system requires some considerations that refer us to the regulatory framework. Thus, the AI value chain operators will be responsible for compliance with the AI Act requirements corresponding to each stage of the chain: design requirements, transparency, explainability, auditing, risk management, etc.

This approach to the legal recognition and admissibility of automated systems in and for contracting under the formula of the principle of non-discrimination also leads to the assumption that a prior agreement between the parties is not necessary for the use of an automated system in any of the phases of the contractual cycle as a requirement for its validity and effectiveness. This very essential and basic statement takes us back to the early days of electronic contracting, where its full legal admissibility depended precisely on freeing it from its being made conditional to prior agreement between the parties. Full recognition of the validity and effectiveness of actions with a (*pre-* and *post-*) contractual purpose executed by automated systems must necessarily include this fundamental premise of the absence of prior agreement. In sum, the principle of non-discrimination implies that these actions cannot be denied validity and legal effectiveness solely on the grounds of their automated nature, without human intervention, and, therefore, that prior agreement between the parties is not an additional requirement to be satisfied in order for automated contracting to be legally recognized.

This simple, but crucial, statement invites exploration of some particular scenarios and raises questions beyond the positive and conclusive confirmation that a prior agreement is not a requirement for the validity and effectiveness of automated contracting.

The dilemma on automated contracting has been solved in its first part. Are automated contracts valid and enforceable under existing (human-centric) Contract law and within the present contractual 'culture'? Even more, are these contracts negotiated, formed, and/or performed by automated systems actually 'contracts'? Do we need to reconcile automated contracting with the fiction of a dialogued, human-driven agreement based on a meeting of minds or, instead, to deem this classical conception exhausted or overcome? The principle of non-discrimination would be

aimed to deactivate any legacy impediment. But the entire dilemma is not solved. Is automated contracting valid solely on the basis of party autonomy, as parties accept and agree on? Are we admitting instead a 'functional equivalence' between human autonomy and AI agency? Yet, could parties agree on banning, limiting or subjecting to certain conditions the use of AI systems in their transactions? If so, these practices would bring about to legal life the category of *intuitu homini* contracts.

III. PRIVATE AUTONOMY, AUTOMATED CONTRACTING AND *INTUITU HOMINI* CONTRACTS

The principle of non-discrimination against automated contracting neither ignores nor limits private (human) autonomy. While it is clear that not requiring prior agreement for the use of automated systems as a requirement for validity is a key consequence of the principle of non-discrimination, parties can agree on the use of (or on the conditions under which they will use) automated systems in their dealings. There are various possible scenarios.

First, parties can set the terms of use of automated systems in a transaction-specific and concrete manner. They could, for example, incorporate these terms in a preliminary agreement governing the negotiation between the parties, or it could simply be a pre-agreement that one party imposes on the other (with a first unilateral declaration that the other party accepts) if it wants to negotiate and contract with it.

Second, parties may establish a contractual framework of collaboration to regulate long-term relationships or repeated and successive operations and include and detail the conditions for the use of automated systems between them at any stage of the contracting cycle.

Third, conditions for the use of automated systems may be contained in the membership agreement[41] which is concluded between the parties (platform users) and the platform operator and which regulates not only the interaction between each user and the operator, but also incorporates the rules (either directly or by reference) governing transactions between users. What is interesting in this scenario is that the pre-agreement is not concluded between the parties, but is concluded bilaterally between the user and the operator, but determines the use of automated systems in the contractual relations between users. The underlying approach is that accepting the terms of the membership agreement (and the platform policy it incorporates therein) is a prerequisite for accessing and contracting on and through the platform. Thus, parties accept and, when contracting on the platform, do so with the reasonable expectation that their automated contracting will be in accordance

[41] T. Rodríguez de las Heras Ballell, 'Las condiciones de uso de los sitios web y los *brose-wrap agreements*', in A.L. Calvo Caravaca and J. Oviedo Albán eds, *Nueva Lex Mercatoria y contratos internacionales* (Colombia: Grupo Ibañez, 2006), 303-346.

with the platform policy accepted by all parties.

These three possible scenarios lead us to identify, in turn, three angles. Leaving aside the simplest and most obvious situation where parties agree to use automated systems as an enabling clause, what the principle of non-discrimination renders unnecessary, parties can draft clauses that impose the use of automated systems in all or some of the contract cycle stages and for one or more purposes, that establish or modulate the conditions of validity and effectiveness, and that prohibit or limit the use of automated systems.

1. Automated Contracting as a Condition Agreed by the Parties

Firstly, parties may agree that the use of automated systems is instrumental to achieve their expectations in their contractual relations. A particularly revealing case is when the parties conclude a contract that they wish to be self-executing and therefore to be implemented as a smart contract.[42] The agreement can be negotiated and concluded in the traditional way, as these phases are not the relevant ones here, but it is to be executed in an automated way.

Feliu Rey[43] analyses it from an original and innovative perspective with the formulation of a very suggestive proposal on the evolution of the form of contracts and the emergence of a 'dynamic function' of form in smart contracts. Indeed, when the parties agree to conclude a contract in the form of a smart contract, the effectiveness of the contract depends on its programming in machine language to allow the automated self-execution of the instructions (of the agreement) to the extent desired and agreed by the parties. Without the appropriate form, ie without automation, the contract does not produce the desired effects and, in fact, its effectiveness is diminished or completely nullified. Without the ability to self-execute, the determination of performances is not possible (eg without the setting of the quantity or price that should be carried out automatically), one or more performances cannot be executed (eg the automatic payment of compensation or the enabling of access to a service), or the consequences in case of non-performance agreed by the parties are not activated or self-executing (eg the withdrawal of access permits or the blocking of the autonomous vehicle).

2. Parties Agree to Modulate Conditions and Effects of Automated Contracting

Secondly, a slightly different scenario, but with substantially differing effects, is the one in which the parties agree on the use of automated systems by setting specific conditions or modulating the general conditions of validity and effectiveness. They can do so by making the actions or declarations of automated systems subject to

[42] M. Durovic and F. Lech, 'The Enforceability of Smart Contracts' 5 *Italian Law Journal,* 493-511 (2019); E. Mik, 'Smart Contracts: A requiem' *Journal of Contract Law*, forthcoming.

[43] J. Feliu Rey, 'Smart Contract: concepto, ecosistema y principales cuestiones de Derecho privado' *La Ley Mercantil*, 11 (2018).

more restrictive conditions, such as human review or supervision at some stage in order for the actions to be effective; or, conversely, by preventing the validity and effectiveness of such actions from being questioned even on grounds that would otherwise be invalid. The Quoine case,[44] before the Singapore Court of Appeal, offers an interesting case to explore these scenarios.

Quoine, the plaintiff, operated a crypto-assets platform known as QUOINExchange. B2C2 was one of the users of the platform that traded in certain crypto-assets. In addition, both Quoine and B2C2 acted on the platform as 'market makers' who actively executed buy and sell orders in order to provide the market with liquidity and thus minimize volatility. The buying and selling contracts on the platform were fully automated (trading). The dispute leading to the court proceedings took place on 19 April 2017 when up to thirteen transactions on crypto-assets were concluded between B2C2 and two other users of the platform in an automated manner at the price determined by the algorithmic system (10 Bitcoins for 1 Ethereum) which turned out to be approximately 250 times the market price at that time (0.04 Bitcoins for 1 Ethereum). The transactions, however, were immediately and automatically concluded and executed in favor of B2C2, even though the disproportionate exchange ratio between the two types of crypto-assets led to overdrafts in the accounts of B2C2's two counterparties. The next day, when Quoine became aware of the transactions, it took the view that they had been concluded at an 'abnormal' (highly abnormal) price and proceeded unilaterally to cancel the transactions, thus reversing the transfers between the parties' accounts.

This case raised several issues of interest (on the nature of crypto-assets and their possible treatment as subject of property rights, the concurrence of error in transactions and their valuation in automated transactions without human intervention, the contractual relationship between users and Quoine), but here we have to focus on two of the clauses contained, respectively, in the access contract (membership agreement) to the platform and a document subsequently published by the operator that were discussed in the proceedings.

The access contract between the users and the platform (B2C2 and Quoine and the counterparties to the disputed transactions and Quoine) contained a clause under which once an order has been completed on the platform it is irreversible. This is the clause on which B2C2 based Quoine's breach of contract by proceeding to unilaterally cancel orders already executed. Quoine, for its part, argued that, pursuant to the access contract, the parties were also bound by all other rules, agreements and policies of the platform in force from time to time. These included a document entitled Risks in Virtual Currency Transactions in which the platform operator acknowledged and warned that the system could produce an abnormal or aberrant value for the purchase or sale of crypto-assets and, in such a case, the operator could cancel it.[45]

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[44] *Quoine Pte Ltd* v *B2C2 Ltd* [2020] SGCA(I) 02, Court of Appeal of the Republic of Singapore.

[45] 'Risks in Virtual Currency Transactions' statement' published by Quoine on 22 March

The court's analysis in the two instances focused on several prior aspects such as the incorporation of the document on transactional risks in the contract, the existence of implied terms and, if so, their prevalence over the terms explicitly contained in the contract, or the legitimacy of Quoine to allege as a defense to the action brought by the other party for breach of contract of the 'irreversibility clause' the fact that the transactions in dispute could be invalidated due to a fundamental error. But, at this stage, one very specific issue is of interest. The existence of a clause by virtue of which the parties accept, apparently to the fullest extent, that the transactions automatically concluded by the automated system integrated in the platform for the execution of orders are irreversible. What is really intriguing is whether the intention of the parties is that such irreversibility should be full and absolute, ie that neither ignorance of the specific conditions under which the automated system concludes the transaction (in particular, the price determined by the system), nor the occurrence of error or other invalidating causes can be invoked to reverse the transaction. In fact, it would seem that the parties had agreed on a sort of 'enhanced effectiveness' clause or special resistance of automated transactions to invalidity or ineffectiveness in order to guarantee the operability of the market and, to a certain extent, to prevent or mitigate systemic risk. In this sense, the irreversibility clause would seem to emulate the logic of finality and enforceability of transfer and clearing orders in payment and securities settlement systems.[46]

Acknowledging by leaving aside all the (functional, institutional, material) differences, which are undoubtedly significant, this comparison is suggestive and revealing because it shows a possible interpretative option of the objective and scope of the irreversibility clause. Irreversibility is essentially a technical-legal mechanism for safeguarding the stability and viability of the market, but it would not prevent the parties from being able (without revoking the transaction) to bring restitution or compensation actions in certain cases.[47] With this interpretation, the parties, through the bilateral agreement that each user concludes with the market operator (Quoine), would be giving firmness, with a special resistance to revocation, to the automated transactions concluded on the platform. Their automated nature could be a decisive reason for this conventional solution. The basic question is whether or not revocability is available under party autonomy[48] and, therefore,

2017 contains a section 8 dedicated to system risks: 'The system may produce an aberrant value for the buy or sell price of the virtual currency calculated by the system. Please be aware that if the Company finds that a transaction took effect based on an aberrant value, the Company may cancel the transaction. Your understanding is appreciated'.

[46] Recital 14 of the European Parliament and Council Directive 98/26/EC of 19 May 1998 on settlement finality in payment and securities settlement systems[1998] OJ L166/ 98.

[47] Recital 13 Directive 98/26/EC which notes that order finality and netting 'should not prevent a participant or third party from exercising any right of recovery or restitution resulting from the underlying transaction that it may lawfully have in respect of a transfer order entered into the system, for example, in the event of fraud or technical error, provided that such exercise does not result in the unwinding of the netting or the revocation of the transfer order in the system'.

[48] F. De Castro y Bravo, *El negocio jurídico* (Madrid: Instituto Nacional de Estudios Jurídicos,

to what extent the parties can alter the assumptions or consequences either restrictively (thus limiting the actions for revocability or their conditions) or extensively (extending time limits, assumptions or consequences).

From another, somewhat more ambitious, perspective, the parties might be choosing to design a risk sharing and risk assumption system that allows for the operability of the platform in which they considerably reinforce the validity and effectiveness of automated transactions with a non-reversal, ie non-cancellation covenant. The key question is whether this risk-assumption clause (presumably of all possible risks that could invalidate the transaction) by the parties on the platform is not only the actual intention of the parties, but a valid and effective clause by its scope. That is to say, if the exercise of party autonomy allows the parties to agree on a distribution of risks of error within general limits.

It will not always be possible to modify by agreement the legal regime of distribution of the risk of error, but there is no reason to reject outright and completely the admissibility of these agreements,[49] Certainly, there are limits, some of them aimed at protecting the interest of the contracting parties, others aimed at safeguarding the interest of the economic traffic that would suffer from the uncertainty that third parties would have to bear if the parties alter fully or partly the rules governing error in contracts,

Moreover, in this case we are analyzing, we must add the fact that it is the market operator, Quoine, and not the parties, who (precisely because of the technological availability to execute the cancellation) carries out the controversial and disputed cancellation of transactions, in which it is not a contracting party.

The Quoine case has helped us to imagine these scenarios and thus to explore the possibilities of conventional modulation of the validity and effectiveness of automated transactions and the consequences of such modifications. Uncertainty as to the legal regime applicable to automated transactions or doubts as to the full scope of the principle of non-discrimination of actions performed by automated systems may encourage the parties to establish a contractual framework for automated transactions that prevents conflicts with a conventional sharing of risks. To this end, clauses can be found which treat cases of error as malfunctioning and allocate the risks, or which reinforce the effectiveness of these transactions by conventionally limiting avoidance or redress actions.

3. Intuitu Homini *Contracts*

Thirdly, it is necessary to address the most extreme scenario involving the most radical consequence of the prohibition of the use of automated systems for certain transactional purposes, in certain contexts or for one of the parties to the negotiation

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2nd ed, 1971), 560.

[49] Careful analysis of the admissibility of these agreements, their typology and scope, in A.M. Morales Moreno, *El error en los contratos* (Madrid: Ceura, 1988), 249-254.

or contract. If we start from the principle of total and absolute recognition of the decisions taken or assisted and actions executed by automated systems, this type of prohibition of use agreement would reflect the will of the parties to restrict the means, form and conditions under which they decide to conduct their dealings or the contracts they conclude.

A first interpretation of these clauses, especially when they refer to the performance of the contractual obligations, could be that they articulate service or work agreements concluded *intuitu personae*. Such contractual restrictions or prohibitions on the use of automated systems are likely to emerge strongly in the context of creative intellectual, or artistic works or even professional services. While in modern economies, the collective exercise of professions and the frequent need for subcontracting or assistance of the debtor by assistants endows the requirement of special 'qualities of the person' with another dimension, the current state of the debate on AI systems and in particular generative AI may lead to the emergence of prohibitive clauses in contexts with a high creative or intellectual component. A trend could crystallize towards *intuitu homini* relationships limiting the use of automated systems in the execution of works, the provision of services or the performance of any of the contractual obligations.

This trend, which we coined as *intuitu homini* contracting, could find not only a particularly fruitful environment but also and above all a more convincing justification in artistic, creative or intellectual activities (a novel, a weekly newspaper column, a scientific article for a magazine, a musical work, an advertisement). Without yet entering into the debate on the 'artificial authorship'[50] or the originality of work that have been generated or created by AI systems and would therefore reflect the personality of a 'non-human entity' as author (or inventor),[51] the question

[50] The traditional response in various jurisdictions to the concept of authorship, without expressly referring to or excluding creations by 'non-human' entities, reveals indications that the recognition of authorship and originality depends essentially on the intervention of a human being, Case C-5/08 *Infopaq International A/S* v *Danske Dagblades Forening*, Judgment of 16 July 2009, available at www.eurlex.europa.eu; *Feist Publications, Inc.* v *Rural Tel. Serv. Co.* 499 US 340 (1991); *Acohs Pty Ltd* v *Ucorp Pty Ltd* [2012] FCAFC 16; F. Sánchez Merino, '3. Artificial Intelligence and a new cornerstone for authorship' 9 *WIPO-WTO Colloquium Papers*, 26-41 (2018).

[51] The debate on the authorship of works generated by AI systems has also extended to the protection of inventions with industrial property rights. Thus, for example, the UK Supreme Court upheld in a decision of 20 December 2023 the IPO's rejection of the designation of an AI system (called DABUS, Device for the Autonomous Bootstrapping of Unified Sentience) as an inventor in a patent application - *Thaler (Appellant)* v *Comptroller-General of Patents, Designs and Trade Marks (Respondent)* [2023] UKSC 49. The office had insisted that only 'persons' could be inventors in the invention protection scheme. The court confirms this restrictive interpretation of the requirement to designate a 'person' as an inventor: '(...) DABUS is not a person or persons and, for the reasons (...) given, it is not a tenable interpretation of the 1977 Act that a machine can be an inventor' (para 94).

Previously, the patent application designating DABUS as inventor had also been rejected by the Australian patent authority (Deputy Commissioner of Patents) on the same interpretative grounds: the meaning of the term inventor in patent law is 'inherently human'. In the first instance before the Australian courts - *Thaler* v *Commissioner of Patents* [2021] FCA 879 - however, the court

is approached here solely from the perspective of the compliant performance of the contractual obligation. Then, whether, in the absence of any specification of the conditions under which a given contractual obligation must be performed, the principle of non-discrimination precludes a claim of non-conformity or non-conforming performance merely because an automated system has intervened or assisted in the performance. The possibilities are manifold, including the obligations to deliver, to make payment, and to enable access to a service, as well as sort, to select, or to produce content. The automation of these actions is not only frequent, but also naturally materializes the benefits associated with automation in a particularly visible and intense way.

The answer is less conclusive when the action carried out involves an essential creative, intellectual or professional activity that is decisive for the full satisfaction of the other party's interest, as we have already noted. If, in the absence of any explicit prohibition or reference in the contract, AI-assisted financial advice, an audit report produced by an automated system or a claim or a contract drawn up by ChatGPT are, by the mere fact of automation, compliant with the contractual obligation assumed by the contracting party. Unlike the more mechanical or material actions of delivering, paying or providing access to a service, in which human intervention would not, at least in principle, appear to be decisive to ensure a particular expected quality, it could be questioned whether the provision of a service that requires or presupposes a certain professional qualification or license or authorization to be lawfully exercised in the market can be provided entirely by an automated system or with its aid or assistance. In this interesting scenario, and assuming that the parties have not specified anything to the contrary, a determined defense of the principle of non-discrimination leads us not to question the conformity of performance, on the assumption that it is the diligence of the contracting party in the selection, maintenance and supervision of the executing or auxiliary automated systems that will determine conformity. Interestingly, the spotlight of the diligence is transferred or relocated, and its content is modulated so that it does not focus on the personal and direct execution, but on the selection, supervision and monitoring of the automated performance. The diligence is converted into a protocol that replaces

decision reversed the patent authority's refusal to accept the application on the grounds, in effect, that it hindered innovation. This decision by Judge Beach is interesting because it not only addresses the issue from the perspective of the broad and modernizing interpretation of the term 'inventor' but also raises the issue of attribution. According to Judge Beach's reasoning, neither legal personality is being attributed to DABUS nor recognition to the IA system of industrial property rights. It only requires an attribution formula based on the ownership and possession of the system by whoever would be the future holder of the patent rights. In other words, even if DABUS is designated as the inventor, the patent right will be recognized to the owner of the system. Specifically, the judge admits that it will be the patent holder who will be the owner of the rights to the DABUS source code and owner and possessor of the device in which it resides. This generous interpretation, however, is reversed on appeal *Commissioner of Patents* v *Thaler* [2022] FCAFC 62 - on the basis of the line of jurisprudence set out by the High Court of Australia, which defines the axis of patentability as a 'human action'.

direct execution with automated execution under certain requirements. But it is not clear who has to be the licensed/authorized/qualified/registered professional along the value chain. As it should be based or depend upon the attribution of the actions performed by the automated system.

While the most forceful defense of an unwavering principle of non-discrimination *ratione automatae* leads us not to question functional equivalence in terms of conformity, a certain tendency towards what we have called *intuitu homini* relationships and, above all, practical reasons of exposure to liability are generalizing the practice of disclosure. It is decided to report, as good practices, internal protocols of action or codes of conduct, or even to contractually impose, the use of AI systems in some of the tasks relevant for the negotiation, conclusion or execution of the contract or for the provision of the services. For example, law firms that inform their clients of the use of generative AI in certain tasks under strict supervision or with due review or advertising agencies that include in their contracts clauses prohibiting or, in this case, informing them of content generated by or with the assistance of AI systems. This practice requires a proper assessment of strategic, commercial and reputational considerations because it can have important and not subtle competitive implications.

The obligation to report the use of AI in the generation of content by labelling the content thus generated has crystallized precisely as a legal obligation in the AI Act (Art 50, para 2, of the AI Act). Similarly, as explained above, transparency obligations apply for AI systems intended to interact with natural persons under certain conditions.

Up to this point, we have basically dealt with the contractual regulation of the use of automated systems in the execution of contractual obligations, but there is one last derivative in the analysis of the conventional modulation of automated contracting that deserves attention. It is the prohibition or limitation of the use of automated systems in or for negotiation or contracting in consumer relations.

IV. RIGHT TO USE AUTOMATED SYSTEMS IN CONSUMER RELATIONS: *ADM-BARRIER-FREE* PRINCIPLE

The question that triggers this debate is whether the use of automated systems for consumer decision-making can strengthen the consumer's position and improve bargaining power. If a consumer, assisted by a virtual assistant, i.e. by an automated system that searches and processes information, selects and recommends options or even makes the final contracting decision with a prior review of the purchase conditions, is in a position to make better informed decisions, the use of automated systems in consumer relations accompanies and makes the protective function of consumer law more effective. If such a premise is assumed, the limitation or prohibition of their use will be avoided or prevented as far as possible because it

empowers the consumer. The underlying debate is much more complex, with more nuanced premises and less forceful conclusions, but at this point we only take one of the argumentative threads to address the question of the contract-based prohibition of the use of automated systems, in particular by the consumer. Thus, whether the principle of non-discrimination of automated systems in contracting, reinforced by the premise that it also mitigates consumer's vulnerabilities and improves their bargaining position, is transformed into a right of use without limitations or barriers in consumer relations.

Without going into the body of the study, which deserves and will receive elsewhere due attention, it suffices to spotlight one of the principles proposed in the ELI Guiding Principles and Model Rules on Digital Assistants for Consumer Contracts.[52] Of the eight principles tentatively proposed in the first phase of the project, principle 4 (Non-discrimination and ADM-barrier free principle) encapsulates the idea that consumers might benefit from the use of automated systems for trading and contracting. Moreover, automated systems in the form of digital or virtual assistants can most effectively and fully realize the ultimate ratio of the 'informed decision'[53] which the consumer makes in full knowledge of the facts and with full, adequate and sufficient information to ensure that it is in their best interests.

Both in their current state of development and in their expected future evolution, automated systems operating as digital or virtual assistants for consumers would act as powerful managers of transaction-relevant information. They can collect, contrast, compare and verify information provided by traders about the product, recommend the best combination of attributes, advise on the most appropriate contractual terms, negotiate certain terms, search for the best offer, reject proposals incorporating contractual terms that the consumer has marked as unacceptable, or dynamically review long-term relationships such as subscriptions or contracts for

[52] Details of the ELI Guiding Principles and Model Rules n 16 above. The co-rapporteurs of the project are Christoph Busch, Teresa Rodríguez de Las Heras Ballell, (Dariusz Szostek until October 2023), Christian Twigg-Flesner and Marie Jull Sørensen. The project consists of two phases. The first phase has been completed with the drafting, adoption and publication of a report analyzing the suitability/readiness of European consumer law for the use of automated systems and incorporating legislative recommendations to ensure that the *acquis* does not contain barriers to automated consumer contracting and that consumer protection is not undermined by automation. This report approved by the ELI Council on 27 November 2023 and published in the same year, Interim Report of The European Law Institute, 'EU Consumer Law and Automated Decision-Making (ADM): Is EU Consumer Law Ready for ADM?', available at www.europeanlawinstitute.eu, examines the adequacy of existing rules while already anticipating some of the principles that will guide the second phase of the project aimed at formulating a set of principles and model rules for automated contracting.

[53] Art 2, letter e, of the European Parliament and Council Directive 2005/29/EC of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council, (*Unfair Commercial Practices Directive*) [2005] OJ L149/22.

the supply of products or services. These functionalities and potential applications of virtual assistants would seem to dilute the weakened position of a consumer unable to deal with scattered, overwhelming, biased or complex information. The virtual assistant stands as a consumer protection wall and a 'manager of consumer interests' with unparalleled collection, verification, integration and search capabilities.

On a first reading, automated contracting would seem to rebalance consumer relations, eliminating asymmetries and reducing the need for safeguards. But the context is much broader and more complex and cannot, and should not, be solved with the erroneous assumption that there are no more 'consumer relations', maybe new types of contextual, relational, or architectural '*contratti asimmetrici*'. Indeed, as a premise, the ELI Guiding Principles and Model Rules on Digital Assistants for Consumer Contracts start from the principle (Principle 2: Application of Consumer Law to Algorithmic Contracts) that the actions of the digital assistant are attributed to the consumer and, as such, consumer protection rules apply. Perhaps this should only be an interim and transitory answer that will have to be discarded when (if) the transition to M2M transactions in all economic relations is completed. Then, focus shall need to be placed on 'technological asymmetries' and 'digital vulnerabilities'.[54]

The intricate question of the attribution of information to the consumer while interacting via a digital assistant is not discussed here. Solely, following arguments are directed to assess whether, given the effect of the strengthening of the consumer's position that the use of automated systems seems to have, the limitation or prohibition of their use by the trader would be acceptable. The principle of non-discrimination and non-barrier has two derivatives. On the one hand, the prohibition of a differentiated and unfavorable treatment of consumers who use automated systems compared to consumers who do not. On the other hand, the prohibition for the trader to prevent consumer from using digital assistants or 'agents'[55] for contracting reference to 'agents' triggers a highly controversial debate on the applicability of 'agency law' as well as a number of fascinating ethical questions.[56] But in neither of its two variables the principle should be understood as being absolute. As a matter of fact, the debate as to whether a genuine 'right to use' automated systems should be recommended and articulated into the formulation of duties of the trader not to prevent, limit or restrict is complex and remains open. Competing interests are pitted against each other and do not facilitate a one-color solution.

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[54] C. Crea and A. De Franceschi, *The New Shapes of Digital Vulnerability in European Private Law* (Baden-Baden: Nomos, 2024).

[55] M. Wooldridge and N. Jennings, 'Intelligent agents: Theory and practice'10 *The Knowledge Engineering Review*, 115-152 (1995); E.M. Weitzenboeck, 'Electronic Agents and the Formation of Contracts' 9 *International Journal of Law and Information Technology*, 204-234 (2001); S. Chopra and L. White, 'Artificial Agents and the Contracting Problem: A solution via an agency analysis' (2) *University of Illinois Journal of Law, Technology and Policy*, 363-403 (2009).

[56] L. Floridi and J.W. Sanders, 'On the Morality of Artificial Agents', in M. Anderson and S.L. Anderson eds, *Machine Ethics* (Cambridge: Cambridge University Press, 2011).

The effective exercise of an eventual right to use automated systems for contracting by consumers would require, first, preventing the use of technological, operational or design measures that block, deter or disable the use of digital assistants (blockers); and, second, implementing contractual, technological and design solutions that facilitate the digital assistant to perform the necessary actions under equivalent conditions. Digital spaces (websites, applications and other digital user interfaces) should be designed in such a way that they do not pose a barrier to automated systems or, moreover, that they are ADM-friendly, ie suitable for use by digital assistants. Another important element which is already expressly provided for in the regulation and which will be key for digital assistants to play their role is that the information to be provided by traders must be available in machine-readable form and, of course and cumulatively, in a form which is intelligible to the consumer (Art 14 of the DSA).[57] This is the only way to avoid *de facto* discrimination against consumers assisted by automated contracting systems.

The implementation of these technological and operational, design and programming measures involves costs and requires changes in communication channels, interfaces and contracting procedures. They could therefore become a burden for smaller companies, putting them at a disadvantage *vis-à-vis* established market players and large platforms. This disruptive effect on the market has to be taken into account in the final shaping of the principle of non-discrimination and non-barriers. In addition, and from another perspective that applies equally to small and large entities, the use of automated systems can saturate the system, simultaneously block available offers without completing the transaction, alter prices or erroneously generate messages of lack of availability (bots for purchasing tickets, assistants who keep multiple transactions pending simultaneously, bots that flood the system and make it collapse, automated systems that multiply bookings).

The above examples illustrate that there may be cases where legal restrictions (and legitimate and reasonable contractual prohibitions) may exist, or be imposed, on the use of automated systems to protect specific interests, such that their use becomes unlawful, inappropriate or unreasonable.

V. CONTRACT LAW FOR THE THIRD MILLENIUM

Automation in forming and performing contracts is proved to be a major

[57] Art 14, para 1, of the Regulation (EU) 2022/2065, n 37 above: 'Providers of intermediary services shall include information on any restrictions that they impose in relation to the use of their service in respect of information provided by the recipients of the service, in their terms and conditions. That information shall include information on any policies, procedures, measures and tools used for the purpose of content moderation, including algorithmic decision-making and human review, as well as the rules of procedure of their internal complaint handling system. It shall be set out in clear, plain, intelligible, user-friendly and unambiguous language, and shall be publicly available in an easily accessible and machine-readable format'.

revulsive for Contract law, and a strong catalyst for an in-depth reflection on consumer protection and the very notion of vulnerability and asymmetry in contractual relations. It is undoubtedly a fuse that can fuel a vivid debate on the notion of (human) autonomy and its meaning and significance for Contract law.

While the perception of asymmetries in contracting provided a wide space for analyzing a growing variety of situations that require attention within the dual contraposition (B2B) contract-consumer contract, digitalization confront us with the need to recognize dynamic, contextual, relational, and architectural factors determining vulnerabilities in contracting. More than a *terzo contratto*,[58] there is a (third?) 'contractual space', with changing and malleable contours, where autonomy is vulnerable on various grounds. Thus, significant efforts are made to instill 'fairness' and transparency in non-consumer contracts where asymmetries, market failures and frictions, or vulnerabilities are identified due to the new digital architecture of the market, and commercial trade.[59] The efforts in the Italian scientific legal literature to capture and conceptualize asymmetries in contracting beyond consumer transactions are indeed rather forward-looking. While technology permeates contractual relations, the notion of contractual asymmetry presents other facets. The former duality between asymmetric relationships and symmetric ones that reduced possible scenarios to two opposing realities, now exploded into a constellation of changing, evolving, context-dependent situations. The sagacity of freeing asymmetry from the consumer determinants paves the way to fully grasp the complexity of modern contracting.

Automated contracting raises novel and unprecedented challenges to Contract law that add such a level of complexity so as to require revisiting *termini*, *concetti*, *categorie*.[60] Automated contracting is not only giving a new dimension to the notion of vulnerability, what requires further and closer reflection,[61] but also is putting an unbearable strain on the very notion of contract, consent, (human) autonomy. The contribution of Italian doctrine to the real notion of consent and its 'transfiguration', maybe 'dilution' or 'replacement', to cope with the 'mechanization' of contracting in mass commerce provides fundamental insights to the debate on automated contracting. When the perception or the criticism of 'dehumanization' takes on full meaning and seems to go beyond a metaphorical descriptor for a form of commerce, all reflections on the *disumanizzazione del*

[58] E. Minervini, 'Il terzo contratto' *Contratti,* 493-500 (2009); G. Gitti and G. Villa, *Il terzo contratto. L'abuso di potere contrattuale nei rapporti tra imprese* (Bologna: il Mulino, 2008).

[59] European legislative actions on Platform-to-Business (P2B) or on data sharing are revealing and illustrate such a trend, see the European Parliament and Council Regulation (EU) 2019/1150 n 35 above. In particular, Art 13 of the European Parliament and Council Regulation (EU) 2023/2854 13 December 2023 on harmonized rules on fair access to and use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 (Data Act) [2023] OJ L/2023/2854.

[60] G. Alpa, 'Intervento conclusivo', in L. Gatt ed, *Il Contratto del Terzo Millennio. Dialogando con Guido Alpa*, (Napoli: Editoriale Scientifica, 2018), 75-106, 77.

[61] As this Project of Italian Universities aims to: PRIN Project 'Digital Vulnerability in European Private Law' (DiVE), available at www.prindive.weebly.com (last visited 30 May 2025).

contratto, even if framed in a different context, are sediments for a renewed debate. Automated contracting opens a world of 'actions', 'outputs', 'code', 'design', and 'failures'. Contract law should either embrace them, or accommodate them into the core notions of contract by assimilation, or, rather unlikely, refuse them and treat them under a parallel regime governed by AI agency, but nor plausibly can ignore this challenge. The dilemma is here and is stimulating: automated contracting or *intuitu homini* contracts.