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**Vulnerability and Juridical Will
in the Age of Artificial Intelligence.
From Roman *Voluntas*
to Algorithmic Mediation**

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Vulnerability and Juridical Will in the Age of Artificial Intelligence. From Roman *Voluntas* to Algorithmic Mediation*

SUMMARY: 1. Vulnerability and the Construction of Free Juridical Will – 2. New Vulnerabilities in Contemporary Private Law – 3. AI as a Technology of Governance and of Private Ordering –

* This contribution was developed within the framework of the PRIN research project “*Il Volere Normativo – The Regulatory Will*” (CUP No. D53D23007410006 – Project Code: 2022R739JM), devoted to the structural analysis of juridical will in its relation to normative attribution and the production of legal effects. Within that project, I served as Research Fellow (*Assegnista di Ricerca*) on the topic “Consent and the Free Formation of Will in Roman Legal Experience” (*Consenso e libera formazione della volontà nell’esperienza giuridica romana*). The research trajectory elaborated in that context – here presented at a further stage of theoretical refinement – has also informed the monographic study produced within the project: C. DE CRISTOFARO, *Diritto Romano e Intelligenza Artificiale. Itinerari di comparazione storico-giuridica*, Prefazione di L. Solidoro, Torino, 2025, which examines the transformation of normative agency under algorithmic conditions from both systematic and historical perspectives. The present article should therefore be understood as part of the broader scientific architecture of the PRIN research programme. It revisits the problem of normative will and its contemporary fragilities in light of technological mediation and historical stratification. Reference may also be made to the collective volume *Individual Will and the Civil Law Tradition. Rethinking lex privata*, edited by T. dalla Massara, coordinated by M. Beghini and C. De Cristofaro, Oxon-New York-Torino, 2026. In that context, I presented preliminary results concerning the free formation of consent, particularly with regard to the acting subject operating *invitus* within a transactional dimension: C. DE CRISTOFARO, *The Absent Voluntas: Roman Semantics and Modern Dogmatics*, in *Individual Will*, cit., 289 ff. Given the structural integration of this contribution within the PRIN framework, the bibliographical references discussed in the present study are drawn predominantly from research conducted within that coordinated context.

4. AI as a Generator and Redistributor of Vulnerabilities – 4.1 Opacity, Asymmetry, and Scalable Error – 4.2 Dependency and Diffusion of Responsibility – 4.3 The Paradox of Consent under Choice Architectures – 5. The Binary Structure of Modern Will Theory and its Limits – 5.1 Not ‘Roman Nostalgia’: What Legal History has to Offer – 5.2 *Volens, nolens, invitus*: A Semantic Model of Constrained Agency – 5.3 From Roman Elasticity to Modern Fragilities under AI – 6. Conclusive Remarks Vulnerability, Artificial Intelligence, and the Reconfiguration of Juridical Will.

1. *Vulnerability and the Construction of Free Juridical Will*

The contemporary juristic lexicon increasingly invokes the notion of vulnerability to articulate the conditions under which private autonomy is exercised and, more critically, the structural circumstances in which autonomy diverges from its doctrinal idealization. In this perspective, vulnerability – frequently described as «inherent in the human condition»¹ – does not merely denote exceptional or pathological situations. Rather, in virtue of its ‘conceptual openness’² (and at times its proximity to

¹ M.A. FINEMAN, *The Vulnerable Subject: Anchoring Equality in the Human Condition*, in *Yale Journal of Law and Feminism*, 20.1, 2008, 1 ff. For Casadei, the term ‘humanity’ may be articulated ‘starting from the constitutive fragility and vulnerability that characterizes the condition of every human being, in the different phases and circumstances of life’ (T. CASADEI, *Introduzione*, in *Diritti umani e soggetti vulnerabili. Violazioni, trasformazioni, aporie*, a cura di T. Casadei, Torino, 2012, xx); B. PASTORE, *Semantica della vulnerabilità, soggetto, cultura giuridica*, Torino, 2021, 1 ff., with extensive literature cited therein.

² As noted by A. DE GIULI, *Sul concetto di “vulnerabilità” secondo la Corte di Giustizia UE*, in *DPU*, 10, 2020, 2 and n. 1, the conceptual openness of vulnerability has enabled its deployment across heterogeneous legal contexts, allowing courts and scholars to adapt it to structurally diverse configurations without crystallizing it

‘indeterminacy’³), it captures structural redistributions of power, opportunity, and exposure to risk, including those generated by technological transformation⁴.

The current digital transformation constitutes no exception⁵. Vulnerability designates here the ordinary fragilities of juridical agency which compromise what has been recently identified, particularly within private international law scholarship, as the

into a fixed doctrinal *status*. Contemporary philosophical reflection distinguishes between ontological vulnerability – understood as the universal condition of exposure to injury and relational dependency – and socially produced forms of vulnerability arising from unequal distributions of protection and power. This distinction prevents the concept from collapsing either into mere anthropology or into group-based stigmatization. See, extensively, L. RE, *Vulnerabilità e cura nell’orizzonte dello Stato costituzionale di diritto*, in *POLITELA*, 35(133), 2019, 183 ff.
³ L. SOLIDORO, *Il volere nelle fragilità*, in *TSDP*, s.i. *Il volere nelle fragilità*, a cura di L. Solidoro e M. Scognamiglio, 2025, 7 ff., esp. 10 f. (please note that for contributions drawn from this special issue of *TSDP*, pages indicated in references follow the respective published extracts).

⁴ In this deeper sense, following V. GIORDANO, *Alle radici della normatività giuridica. Vulnerabilità e pratica dei diritti*, in *TSDP*, s.i. *Il volere*, cit., 4 ff., vulnerability is not merely a descriptive attribute of human fragility, but one of the roots of juridical normativity itself. From Hobbes’ account of the exit from the *bellum omnium contra omnes* to Hart’s identification of human vulnerability as one of the ‘truistic’ conditions grounding the minimum content of natural law, legal order emerges as an institutional response to exposure, insecurity, and reciprocal aggression. Protection is not natural, then: it is juridically constructed.

⁵ On the redistributive and structurally non-neutral character of technological revolutions, see G. RESTA, *Prefazione*, in *Fragilità e innovazione. Rischi e tutele per i soggetti vulnerabili nel diritto dell’intelligenza artificiale*, a cura di C. Morgana Cascione e N. Vardi, Torino, 2025, esp. XI ff., where the Author recalls the social costs associated with the first industrial revolution (including enclosures, child labour and urban overcrowding) and emphasizes that technological development is never distributively or normatively neutral.

«autonomy of the will»⁶: informational asymmetries, infrastructural dependency, cognitive saturation, behavioral modulation, and forms of ‘subtle constraint’⁷ operating beneath the threshold of classical categories such as *vis* or *metus*. Recent scholarship has conceptualized this condition as ‘situational vulnerability’, referring to contexts in which «an individual being constrained, coerced, influenced unduly, otherwise ‘incapacitated’ or ‘disabled from giving or expressing a real and genuine consent’ (despite being judged to have the mental capacity to decide)»⁸.

Within private law⁹, this terminological evolution signals a more profound conceptual shift. The analytical focus is no longer confined to the identification of discrete ‘vices of consent’; it extends to the structural environment within which consent itself is constituted. As Laura Solidoro has recently observed, the traditional, closed taxonomy of vitiating factors – consolidated

⁶ A. ABAT I NINET, *Freedom and Personal Autonomy as the Foundation of Private International Law and the Cornerstone of Individual Rights in the AI Era*, in *Journal of Liberty and International Affairs*, 11.1, 2025, 23.

⁷ A. FUSARO, *Il contratto della persona vulnerabile nella prospettiva dei rimedi*, in *Liber amicorum per Paolo Zatti*, II, Napoli, 2023, 1169 ff.

⁸ J. LEWIS, *Safeguarding Vulnerable Autonomy? Situational Vulnerability, the Inherent Jurisdiction, and Insights from Feminist Philosophy*, in *Medical Law Review*, 29, 2021, 312, but see esp. 311 ff., with further bibliography therein cited. See also A. SCHIAVELLO, *Vulnerabilità, concetto di diritto e approccio clinico-legale*, in *Etica & Politica / Ethics & Politics*, 21, 2019, 270, who criticizes reductive conceptions of law that emphasize pathological moments and coercion while obscuring other operational mechanisms, thereby suggesting that ‘law appears to exist only when it is violated [...] and risks underestimating law’s aspiration to justice’. Fitting remarks also in V. GIORDANO, *Alle radici*, cit., 10 and n. 9.

⁹ Private law is only one of the domains in which the growing interest of legal scholarship in the theme of vulnerabilities has emerged; see, for example, in the field of criminal law, F. TRAPPELLA, *La vittima della legalità violata. Spunti in tema di vulnerabilità*, in *Archivio Penale*, 1, 2023, 1 ff. For other sectors in which vulnerability constitutes an object of study from a legal perspective, including in a broader sense, see *infra* § 2 and n. 50.

between the Nineteenth and Twentieth Centuries – proves inadequate to capture forms of fragility that operate as ‘preconditions of psychological conditioning’ rather than as episodic deception or overt threat¹⁰. The purported opposition between fragility and innovation – often mischaracterized as an oxymoron¹¹ – thus conceals a more intricate configuration. Nineteenth-century dogmatics construed the ‘will’¹² as an internally

¹⁰ L. SOLIDORO, *Il volere*, cit., 3.

¹¹ C.M. CASCIONE, N. VARDI, *Intelligenza artificiale e soggetti vulnerabili. Le pratiche vietate e lo sfruttamento della vulnerabilità*, in *Fragilità e innovazione*, cit., 1, 4 ff.

¹² The term ‘will’ is employed here as a dogmatic category of private law, designating the legally constructed formation of volition to which normative effects are attributed. It should not be conflated with testamentary ‘will’, nor reduced to a purely psychological notion of intention. The inquiry concerns the juridical abstraction of *voluntas* as developed within Roman legal culture and subsequently systematized in modern European legal thought. The so-called ‘Will Theory’ did not originate in a single author but emerged between the Eighteenth and Nineteenth centuries at the intersection of natural-law philosophy, Enlightenment individualism, and liberal economic thought. In continental Europe, its doctrinal consolidation is commonly associated with Savigny’s reconstruction of contract as the convergence of declarations of will directed toward a unified juridical effect, as well as with the influence of Pothier on the Code civil. Philosophically, it presupposes a Kantian and Lockean conception of the autonomous subject, according to which binding force arises exclusively from self-determined choice. The German ‘Willensdogma’ represents the most rigorous formulation of this approach within nineteenth-century Pandectist scholarship. In that framework, the internal will prevails over its external declaration, which functions merely as evidentiary and not constitutive of obligation. The subsequent emergence of declaration-based theories (‘Erklärungstheorien’) may be understood as a reaction to the instability generated by such subjectivism, particularly in commercial contexts. The present analysis does not endorse either pole, but examines the structural transformation of juridical will once it becomes mediated, inferred, or algorithmically constructed. See J. GORDLEY, *Will Theory and Conceptual Jurisprudence*, in *Il volere che si fa norma. Quaderno secondo. Volontà e arbitrio*, a cura di E. Ferrante, Bologna, 2025, 11 ff.

coherent and self-transparent source of obligation, susceptible of either validity or impairment. Contemporary legal experience, by contrast, discloses that will is not simply declared but institutionally and technologically produced. It takes shape within economic structures, regulatory frameworks, and engineered decision environments that are neither neutral nor accidental, but the outcome of deliberate design choices.

This insight reopens, in a different analytical register, the classical problem of volitional formation. Technological mediation is not a phenomenon peculiar to the digital age. The issue emerged with acuity during the Pandectist consolidation of the Will Theory of the legal act, at the very moment when legal science elevated volition to the foundational principle of private-law normativity. The advent of automatic devices capable of generating juridical effects in the absence of an immediately present declarant confronted jurists with a disquieting possibility: that contractual engagement might occur outside the paradigm of direct and contemporaneous manifestation of intention, and within a complex constellation of juridical situations and problems that recent scholarship has effectively grouped under the umbrella expression of ‘machinic will’ (*volontà macchinica*)¹³.

In 1892, Fritz Günther’s “*Das Automatenrecht*”¹⁴ confronted this emerging problem directly. Operating within the conceptual horizon of the Pandectist School, Günther sought to accommodate automated transactions through analogical recourse to Roman law. The machine, he argued, functioned as a ‘stummer Diener des Willens seines Herrn’¹⁵, a silent servant of its master’s

¹³ See *La volontà macchinica, Presentazione* di T. dalla Massara ed E. Al Mureden, Pisa, 2024; *La volontà macchinica. Realtà e soggettività*, a cura di T. dalla Massara ed E. Al Mureden, Pisa, 2025.

¹⁴ F. GÜNTHER, *Das Automatenrecht*, Göttingen, 1892.

¹⁵ F. GÜNTHER, *Das Automatenrecht*, cit., 9, where the Author clarifies that the ‘Gebrauchsanweisung’ (instruction for use) affixed to the automaton manifests

will. Like the Roman slave, the automaton lacked autonomous subjectivity while serving as the instrumental extension of another's intention¹⁶.

Yet the analogy soon revealed its fragility. Comparisons between vending devices and Roman figures such as the *iactus missilium*¹⁷ exposed the strain involved in transposing doctrines of property transfer developed for corporeal acts into contexts of technological mediation¹⁸. The ensuing debate – including attempts to assimilate automated transactions to contracts concluded through slaves (the latter, partly as *res*, readily conceptualized as intermediaries devoid of independent volitional impulse between the *dominus* and the counterparty), as well as disputes concerning whether such transactions were to be classified as contracts *inter praesentes* or *inter absentes*¹⁹ – ultimately disclosed a deeper conceptual

the owner's intention to conclude a transaction with anyone who utilizes the device in accordance with its indicated function. Such instruction, crystallized in written form, operates as an intermediary of externally expressed will, suitable, absent any further verbal reiteration, to produce binding transfer effects.

¹⁶ F. GÜNTHER, *Das Automatenrecht*, cit., 9.

¹⁷ F. GÜNTHER, *Das Automatenrecht*, cit., 9. In his attempt to legitimize the construction by analogy, Günther refers to the Roman figure of the *iactus missilium*, suggesting a structural correspondence between that juridical configuration and contracts concluded through automated devices, insofar as ownership may be transferred *in incertum personam*. See Gai. 2 *rer. cott.* D. 41.1.9.7: *Hoc amplius interdum et in incertam personam collocata voluntas domini transfert rei proprietatem: ut ecce qui missilia iactat in vulgus, ignorat enim, quid eorum quisque excepturus sit, et tamen quia vult quod quisque exceperit eius esse, statim eum dominum efficit*. As Gaius explains (cf. also I. 2.1.46), the owner's will, though generically directed to an indeterminate recipient, suffices to produce immediate transfer: whoever seizes the object becomes owner. The dispositive effect thus rests on a will addressed to the public, without prior individual designation.

¹⁸ F. GÜNTHER, *Das Automatenrecht*, cit., 10.

¹⁹ On the doctrinal debate surrounding these issues, involving in particular Von Jhering, Auwers, and Günther, see C. DE CRISTOFARO, *Diritto romano*, cit., 19 ff., esp. 23 ff., with further bibliographical references therein.

tension. The question was not merely classificatory. It concerned whether the machine simply transmitted pre-existing will or whether its mediation altered the very structure through which will was formed and juridically expressed.

Günther himself, though unquestionably a pioneer in the field, ultimately declined to press the parallel too far (at least with respect to automatic devices) conceding that the automaton remained ‘a machine and not a person’²⁰. Early twentieth-century Italian jurists, notably Antonino Cicu²¹ and Antonio Scialoja²², revisited the issue with greater methodological caution. While distancing themselves from uncritical Roman analogies, they nonetheless acknowledged that automated contracting unsettled the presumed unity of the volitional act²³. The matter was not the taxonomic placement of an eccentric phenomenon, but the internal coherence of a doctrinal architecture grounded upon a self-transparent and internally unified will as the origin of obligation and, concomitantly, the possibility of rendering this new technological configuration compatible with juridical figures inherited from the Roman tradition while testing their resilience before an unprecedented technical horizon.

The Twentieth Century further radicalized the inquiry. The coinage of the term ‘robot’ by Karel Čapek²⁴, the normative

²⁰ F. GÜNTHER, *Das Automatenrecht*, cit., 12 f.

²¹ A. CICU, *Gli automi nel diritto privato*, in *Il Filangieri*, 26, 1901, 561 ff.

²² A. SCIALOJA, *L’offerta a persona indeterminata ed il contratto concluso mediante automatico*, Città di Castello, 1902.

²³ A. CICU, *Gli automi*, cit., esp. 563 ff., 579 and n. 1; A. SCIALOJA, *L’offerta*, cit., 144 ff. For a comprehensive reconstruction of the doctrinal debate, see C. DE CRISTOFARO, *Diritto romano*, cit., 24 ff., with references.

²⁴ K. ČAPEK, *R.U.R. (Rossum’s Universal Robots)*, n.p., 1920. The term ‘robot’ was introduced in this play (reportedly suggested by Čapek’s brother Josef), deriving from the Czech ‘robota’, meaning ‘forced labor’ or ‘servitude’. On the early juridical reception of automated agency, see C. DE CRISTOFARO, *Diritto romano*, cit., 28 and n. 99.

thought experiments of Isaac Asimov – particularly his three laws of robotics²⁵ –, the philosophical provocations of Alan Turing («Can machines think?»²⁶) and Hilary Putnam’s reflections on ‘psychological isomorphism’²⁷ progressively displaced attention from mechanical intermediation to artificial cognition. The problem no longer concerned the projection of human will through instruments; it expanded to encompass the hypothetical attribution of autonomous intentionality to artificial systems²⁸.

This genealogy discloses a decisive point: the contemporary tension within will-based private-law theory does not originate exclusively in algorithmic governance (the “*Ubi robots ibi ius?*”²⁹ dilemma). It reveals a structural strain already embedded in modern legal science. The more rigorously will was abstracted as a sovereign interior act – self-grounding and conceptually indivisible – the more destabilizing became phenomena that mediated, fragmented, distributed or technologically refracted its formation.

Modern doctrine progressively compressed the semantic range of *voluntas*. The Pandectist final systematization of *error*, *dolus malus*, and *metus* – indebted to a broader conceptual reorganization

²⁵ I. ASIMOV, *Runaround*, in *Astounding Science Fiction*, 29.1, 1942, 94 ff., where the three ‘laws of robotics’ are formulated: (1) a robot may not injure a human being or, through inaction, allow a human being to come to harm; (2) it must obey orders given by human beings, except where such orders would conflict with the First Law; (3) it must protect its own existence insofar as such protection does not conflict with the First or Second Law.

²⁶ A.M. TURING, *Computing Machinery and Intelligence*, in *Mind*, 59(236), 1950, 433.

²⁷ H. PUTNAM, *Robots: Machines or Artificially Created Life?*, in *Journal of Philosophy*, 61.21, 1964, 677.

²⁸ For a broader reconstruction of the doctrinal debate, including minority positions, see C. DE CRISTOFARO, *Diritto romano*, cit., 28 ff.

²⁹ That is the title of *Iura & Legal Systems*, s.i. “*Ubi robot sibi ius?*” *Le sfide dell’intelligenza artificiale al diritto*, 12.3, 2025.

inaugurated by natural-law thought³⁰ – solidified will into an oppositional construct: either freely constituted and fully effective – in the dual sense of being juridically recognized as a decision «to will or not to will»³¹, provided that such determination is itself freely formed –, or impaired and therefore susceptible to removal³². Intermediate configurations (in which agency is conditioned without being annihilated) were relegated to margins³³. This contraction has had lasting consequences, particularly in the difficulty of articulating forms of moral coercion that do not manifest themselves through overt threat or clearly perceptible constraint, but operate in more elusive or diffused modalities³⁴. What contemporary scholarship described as ‘new’ or ‘atypical’ vices of consent³⁵ reflects precisely this conceptual pressure: situations of economic or psychological dependency, or conditions of marked inferiority in knowledge, power, or influence, capable of distorting the exercise of private autonomy without aligning neatly within classical (inherited) doctrinal categories.

Attempts to construct an internally exhaustive dogmatic theory of moral coercion risk became what has aptly been described as a

³⁰ M. SCOGNAMIGLIO, *Invitus. The Unwilling Between State of Mind and Declaration*, in *Individual Will*, cit., esp. 273 ff., 277 ff.

³¹ A vivid expression coined by P. PASQUINO, *The Will in the Performance of the Obligation: Between Coercibility and Spontaneity*, in *Individual Will*, cit., 241.

³² M. SCOGNAMIGLIO, *Invitus*, cit., 281.

³³ J. GORDLEY, *Will Theory*, cit., 11 ff.; C. DE CRISTOFARO, *The Absent Voluntas*, cit., 297 ff.

³⁴ On the Roman experience of *metus* as a product of *vis compulsiva*, and on the limits of the traditional opposition between *vis absoluta* and *vis compulsiva*, see A. GUASCO, *Free Will and Remedies against Violence in Roman Provinces. Cases and Issues in Epigraphic and Papyrological Sources*, in *Individual Will*, cit., 308 ff., esp. 316 ff. The contribution highlights how provincial sources may problematize the rigid conceptual closure of classical categories.

³⁵ L. SOLIDORO, *Il volere*, cit., 5.

‘conceptual Nessus’ shirt³⁶: once assumed, the classificatory scheme constrains the very phenomena it seeks to illuminate. Roman experience itself suggests that moral pressure often manifested not through overt force, but through configurations of social-economic relational disadvantage. To subsume such heterogeneous situations under a single abstract heading may achieve systematic neatness, yet only at the expense of analytical discrimination.

Juridical practice, however, has never operated exclusively within such rigid abstractions. Nineteenth-century debates on conditional declarations of will already acknowledged that a ‘conditioned will’ does not consist in the juxtaposition of separate volitional moments, but in a unitary act shaped by external contingencies³⁷ (which include, at least today, the «embedded design of the code»³⁸). Similarly, reflections on the attenuation of volition – most notably in Hippolyte Bernheim’s analysis of ‘volontés affaiblies’³⁹ – recognized that spontaneity may be compromised not only by manifest violence but by suggestion, dependency, and structural imbalance. In such cases, the defect lies not in the absence of will, but in the altered process through which

³⁶ See M. BALZARINI, *s.v. Violenza*, in *Enc. dir.*, XLVI, Milano, 1993, 830 ff., esp. 831 n. 5, where the metaphor of the ‘Nessus shirt’ is employed to criticize attempts at exhaustive dogmatic systematization of moral coercion, warning that such constructions risk constraining rather than clarifying juridical analysis.

³⁷ M. SCOGNAMIGLIO, *Invitus*, cit., 273 ff.

³⁸ G. BAZZONI, *Legal Voluntas ex Machina. The Impossibility of Non-Performance in the Age of Code*, in *Individual Will*, cit., 121; see also M. ORLANDI, *Will and Knowledge*, in *Individual Will*, cit., 3 ff.

³⁹ H. BERNHEIM, *De la suggestion dans l'état hypnotique et dans l'état de veille*, Paris, 1884, 85. Bernheim describes the condition of ‘volonté affaiblie’ as one in which spontaneity is diminished and suggestion operates with reduced intellectual control: in a ‘normal’ state, every idea is examined and may be vetoed by critical reflection; under hypnosis, by contrast, the transformation of idea into action occurs with diminished deliberative resistance.

volition is formed and translated into juridical expression and relevance.

The risk, therefore, exceeds merely classificatory inflation. It concerns conceptual distortion. When heterogeneous modalities of constraint are forced into uniform doctrinal compartments, the structural determinants of agency recede from view. What contemporary discourse designates as vulnerability frequently inhabits precisely this intermediate terrain: not the negation of volition, but its conditioning – at times obscured by transhumanist idealizations that depict the present and future human subject, technologically integrated and cognitively enhanced, as a form of ‘*homo excelsior*’⁴⁰ – within asymmetrical contexts and engineered environments. It is in this liminal zone (between overt compulsion and unconditioned deliberation⁴¹) that the limitations of will-centered dogmatics become most apparent.

The contemporary recourse to vulnerability thus signifies more than heightened sensitivity to inequality. It reveals internal tensions within the doctrinal architecture of will itself. Fixed oppositions – such as ‘free *versus* coerced’ or ‘informed *versus* uninformed’ – prove analytically inadequate in environments characterized by structural complexity and technological mediation. Nowhere is this inadequacy more visible than in digitally configured contexts

⁴⁰ The nomenclature becomes established in academic literature with F.H. LLANO ALONSO, *Homo excelsior. Los límites ético-jurídicos del transhumanismo*, Valencia, 2018.

⁴¹ From a structural perspective, ‘weakening of will’ may arise in different configurations: where the subject remains capable of autonomous deliberation but the evaluative process is distorted by misinformation or manipulation; where conditions of dependency constrain the subject’s capacity for determination *ab initio*; and where normative or technological architectures predefine the range of available options, reducing agency to adherence within a pre-structured framework. In each case, *voluntas* is not extinguished but mediated and externally shaped, thereby challenging the classical image of autonomous choice.

shaped by behavioral design and algorithmic profiling. In such settings, will neither disappears nor remains intact as a ‘sovereign’ interior faculty; it is constituted within anticipatory infrastructures that orient and filter its outward expression⁴².

The argument advanced here is deliberately measured. It does not contend that Roman law supplies ready-made solutions to the challenges posed by artificial intelligence, a move that would reduce historical inquiry to a form of doctrinal opportunism⁴³. Rather, it maintains that emerging forms of vulnerability cannot be adequately apprehended without re-examining the conceptual premises through which will, validity, and remedial structure have been organized. Legal history – and in particular the Roman semantic constellation surrounding *voluntas* (including, but not limited to, its articulation as *lex privata*⁴⁴ and its subsequent philosophical elaborations⁴⁵) – offers not substantive transplantation, but methodological discipline. It discloses juridical

⁴² As noted by Ruggeri (*Autonomia*, cit., 108 f.) such dynamics are particularly visible where AI systems interact with minors, whose identity formation and emotional perception are still evolving. AI-driven applications – from adaptive learning tools to conversational agents – may influence behavioral patterns and relational expectations in ways that exceed mere informational filtering.

⁴³ C. DE CRISTOFARO, *Diritto romano*, cit., 1 ff.

⁴⁴ See, among recent contributions, T. DALLA MASSARA, *Introduction*, in *Individual Will*, cit., xvii ff.; S. GALEOTTI, *Voluntas as Lex. The Ancient Roots of a Modern Legal Idea*, in *Individual Will*, cit., 49 ff.; M. BEGHINI, *Error and Last Will in Ulpian’s Thought*, in *Individual Will*, cit., 223 ff., where the interpretative dimension of *voluntas* – even in the context of testamentary dispositions – is analyzed as a point of conjunction between abstract juridical construction and concrete adjudication.

⁴⁵ See, *inter alia*, F. PIRAINO, *The Contract Between Will and Norm*, in *Individual Will*, cit., 38 ff.; M. GRONDONA, *The Legal Force of the Individual Will: Reflections at the Intersection of Political Philosophy and Legal Theory*, in *Individual Will*, cit., 73 ff.; partly also E. FERRANTE, *Voluntas and Lex Contractus in the Interpretation of Standard Clauses*, in *Individual Will*, cit., 89 ff.

categories as historically sedimented constructs, whose apparent rigidity is contingent upon their mode of articulation.

To address technologically mediated agency (situated ‘between fragility and innovation’⁴⁶), private law must recover an analytical framework capable of registering constrained and institutionally shaped forms of will. Approached as a conceptual discipline rather than an object of nostalgia, Roman law reopens the space between absolute autonomy and absolute coercion, a space within which much of contemporary private law now operates, even when it lacks the vocabulary to acknowledge it.

2. *New Vulnerabilities in Contemporary Private Law*

The vulnerabilities affecting private autonomy in contemporary private law are more accurately conceived as interrelated structural configurations rather than as isolated defects. In judicial practice, particularly at the level of European Union adjudication⁴⁷, vulnerability does not function as a rigid *status* category; it operates instead as a contextual and relational assessment embedded within the evaluation of concrete circumstances, often manifesting itself as a condition of which the individual is scarcely aware and therefore barely capable of exercising critical discernment or even ‘resistance’ – resistance being, in turn, a precondition for becoming conscious of one’s own vulnerability⁴⁸ – and which may, at least in an ideal sense, ground a reactive demand for corrective or even

⁴⁶ See the contributions collected in *Fragilità e innovazione*, cit., *passim*.

⁴⁷ A. DE GIULI, *Sul concetto*, cit., 6.

⁴⁸ J. BUTLER, *Rethinking Vulnerability and Resistance*, in *Vulnerability in Resistance*, edited by J. Butler, Z. Gambetti and L. Sabsay, Durham, 2016, 12; on this point see also G. BATTISTONI, *Fondamenti del diritto alla resistenza a partire da Hegel: tra seconda coercizione, diritto di necessità e vulnerabilità*, in *B@belonline*, 9, 2022, 51 ff., esp. 62 ff.

retributive justice⁴⁹. Informational fragility, infrastructural dependency, and relational asymmetry intensified by digital architectures do not supplant traditional categories such as error, fraud, or duress. Rather, they reveal their limitations by bringing to light structural conditions that precede and condition the very possibility of reflective consent.

Contemporary discussions of vulnerability extend well beyond classical market asymmetries. They encompass broader patterns of systemic exposure: online consumer environments, migratory dynamics, climate-induced displacement, armed conflict, public-health emergencies, gender-based violence, and extreme poverty⁵⁰. These phenomena demonstrate that vulnerability cannot be reduced to discrete contractual encounters; it reflects patterned exposure to risk⁵¹ embedded within institutional and socio-economic structures. Private law is not equipped to resolve such macro-fragilities; yet it operates within their horizon and cannot remain indifferent to the ways in which they shape the formation and articulation of consent.

In its classical doctrinal configuration, distortions of volition arising from informational asymmetry were addressed primarily

⁴⁹ I. TERRADAS SABORIT, *La vendetta nell'ordinamento vendicatorio*, in *La giustizia vendicatoria*, a cura di P. Di Lucia e L. Mancini, Pisa, 2015, 129.

⁵⁰ This broader reconceptualization of vulnerability has been systematically explored in recent scholarship addressing systemic crises (war, terrorism, forced migration, climate change, pandemics, gender-based violence and structural poverty) as structural generators of fragility that reshape normative responses beyond sectoral regulation. See, for example, S.A.I. EL SABI, *Anziani e marginalizzazione algoritmica: bias sistemici e rischi discriminatori nei dispositivi intelligenti*, in *Fragilità e innovazione*, cit., 51 ff.

⁵¹ From a sociological perspective, vulnerability operates through the asymmetric redistribution of socially produced risks: while certain risks may appear universal, vulnerability marks those subjects or groups less capable of absorbing or reacting to them (see L. SOLIDORO, *Il volere*, cit., 8).

through the categories of *error*, *vis* or *dolus* (especially *malus*)⁵²: the subject acted under a mistaken belief or was deceived, or coerced by a counterparty. This model presupposed a bilateral architecture in which misinformation or pressure could be traced to identifiable conduct. Through the mediation of Romanistic tradition, this tripartite nomenclature and its underlying logic penetrated modern

⁵² It would be excessive, if not superfluous, to attempt here even a selective reconstruction of the vast bibliography on the defects of will, one of the central themes of the entire legal tradition. For the limited purpose of the present argument, reference to the institutional literature is sufficient, especially to show the survival of the recalled tripartition even in systematic studies of Roman Law: E. VOLTERRA, *Istituzioni di diritto privato romano*, Roma, 1974, 169 ff.; M. TALAMANCA, *Istituzioni di diritto romano*, Milano, 1990, 231 ff.; A. BURDESE, *Manuale di diritto privato romano*⁴, Milano, 1993, 197 ff.; M. MARRONE, *Istituzioni di diritto romano*², Firenze-Palermo, 1994-1995, 149 ff.; A. GUARINO, *Diritto privato romano*¹², Napoli, 2001, 384 ff.; A. LOVATO, S. PULIATTI, L. SOLIDORO, *Diritto privato romano*², Torino, 2017, 230 ff. Particularly significant for the issues addressed in this article is the reconstruction offered by I. PONTORIERO, *I vizi del consenso nella tradizione romanistica*, Torino, 2020. Pontoriero shows, with an extensive analysis of classical sources, that the principle according to which error excludes will (*error voluntatem excludit*) was already elaborated in Severan jurisprudence and articulated through the systematic distinction between *ignorantia iuris* and *ignorantia facti*. In relation to error of fact, relevance was conditioned by excusability and essentiality, while error of law was, as a rule, detrimental to the mistaken party, subject to specific attenuations. As regards violence and fraud, the analysis highlights a structural feature of Roman law that is decisive for the present inquiry: *metus* and *dolus* were not originally framed as ‘vices of consent’ in the modern sense, but were addressed primarily through remedial and procedural mechanisms of praetorian origin (such as the *actio quod metus causa*, the *exceptio metus*, and the *actio doli*), whose logic was sanctioning and restitutory rather than centered on the protection of inner freedom as such. The later construction of the unified category of ‘vices of consent’ thus represents a dogmatic development that cannot be retrojected without caution onto the classical materials.

European legal systems and were consolidated within codified frameworks⁵³.

Contemporary informational vulnerability, by contrast, rarely manifests as episodic deception. It resides less in the absence of information than in the structural impossibility of processing the volume, the velocity, and the personalization of data through which preferences are shaped⁵⁴. The subject is simultaneously exposed to informational excess and confined within curated digital environments filtered by intermediaries, who themselves may lack the capacity to anticipate or fully control the cascading consequences of large-scale activities like data processing⁵⁵. The field within which consent takes shape is thus preconfigured prior to deliberation. As it has been observed, «if I enter an environment of predetermined options, I may choose amongst those options,

⁵³ See R. ZIMMERMANN, *The Law of Obligations. Roman Foundations of the Civilian Tradition*, Cape Town-Wetton-Johannesburg, 1990 (1992 reprint), 546 ff.; see also ID., *Roman Law, Contemporary Law, European Law. The Civilian Tradition Today*, Oxford, 2001, 128 ff.; L. SOLIDORO MARUOTTI, *La tradizione romanistica nel diritto europeo*, I. *Dal crollo dell'Impero romano d'Occidente alla formazione dello ius commune. Lezioni*², Torino, 2011, esp. 239 ff.; EAD., *La tradizione romanistica nel diritto europeo*, II. *Dalla crisi dello ius commune alle codificazioni moderne. Lezioni*², Torino, 2010, *passim*, but esp. 83 ff.; I. PONTORIERO, *I vizii*, cit., 139 ff., with extensive bibliography.

⁵⁴ It has been emphasized that contemporary vulnerability often manifests not as classical deception or threat, but as structural inferiority in knowledge, power or influence, thereby distorting the exercise of private autonomy (L. SOLIDORO, *Il volere*, cit., 5). See also V. CANTARELLA, V. COPPOLA, *In principio era internet. L'evoluzione normativa dell'intermediazione digitale: le piattaforme digitali come "poteri private", anche in ambito politico. Le nuove vulnerabilità e il diritto in rete*, in *Iura & Legal Systems*, s.i. "Ubi robots", cit., 6 ff.

⁵⁵ See S. THOBANI, *The 'Consent Illusion': Where is the Fallacy?*, in *EJPLT*, 2025.1, 6, who argues that the incapacity to decide meaningfully is not only subjective but also objective: even data controllers cannot fully anticipate or foresee the downstream consequences of data processing, rendering complete and accurate information structurally unattainable.

but it is very possible that I would have been more interested in something completely different, had it been presented to me»⁵⁶.

Digital markets offer a paradigmatic illustration. Contractual interaction is routinely preceded by stratified layers of disclosures, hyperlinks, consent dashboards, and behavioral prompts that overwhelm rather than clarify. The formal liberty to ‘read and choose’ conceals the practical infeasibility of meaningful evaluation. Genuine choice, indeed, «requires not only absence of coercion in the moment of choice, but also independence and authenticity in the process that leads to the choice»⁵⁷. Which means that the fragility at stake lies not solely in ignorance; it emerges from cognitive saturation. Deliberation is curtailed not by concealment alone, but by overload⁵⁸.

What earlier reflections described as a weakening of will – where an idea translates into action without intermediate critical elaboration – assumes here a systemic dimension. The juridical question is not whether individuals are psychologically vulnerable in the abstract, but whether and how the law acknowledges that structured informational environments recalibrate the process of

⁵⁶ S. GRAFANAKI, *Drowning in Big Data: Abundance of Choice, Scarcity of Attention and the Personalization Trap, a Case for Regulation*, in *Richmond Journal of Law & Technology*, 24.1, 2024, 29 f.

⁵⁷ S. GRAFANAKI, *Drowning*, cit., 30 and n. 141.

⁵⁸ Recent empirical research confirms that informational overload concerns not only scarcity or concealment, but excess exceeding users’ processing capacities. See W. FAN, S. OSMAN, N. ZAINUDIN, P. YAO, *How Information and Communication Overload Affect Consumers’ Platform Switching Behavior in Social Commerce*, in *Heliyon*, 21 May 2024, online; S. GRAFANAKI, *Drowning*, cit., 18 f., observes that the «proliferation of content has placed individuals in a constant challenge of navigating through an overwhelming amount of information», thereby shifting the problem from informational scarcity to attentional scarcity. See also A. TIMILEYIN, *The Role of Cognitive Load in Shaping Web Usability Requirements*, in *IJNTI*, 8, 2024, online, 1 ff.

volitional formation itself, resulting in what has been termed the «consent illusion»⁵⁹.

A further and more pervasive layer of fragility arises from structural dependency upon digital infrastructures. Access to credit, employment, housing, insurance and public services is increasingly mediated by platform-based systems: identity-verification protocols, reputation metrics, algorithmic rankings, predictive scoring mechanisms. In such environments, juridical participation is filtered through decision architectures whose operational logic remains largely inaccessible to those subjected to them. The asymmetry thereby generated does not coincide with traditional disparities in bargaining power; it concerns, more fundamentally, access to the infrastructure itself. The capacity to contract or otherwise participate presupposes prior inclusion within technical systems that operate as gateways to economic and social life for weaker users⁶⁰. Consent is thus articulated – albeit originally within a participatory and incentive-oriented regulatory horizon, captured by the expression ‘gentle law’ (*‘diritto gentile’*),

⁵⁹ S. THOBANI, *The ‘Consent Illusion’*, cit., *passim*. European legislation provides paradigmatic examples of consent deemed legally irrelevant where vulnerability neutralizes genuine choice; see, for instance, Directive 2011/36/EU on trafficking in human beings, which defines vulnerability as a situation in which a person has no real and acceptable alternative but to submit to abuse. (L. SOLIDORO, *Il volere*, cit., 16 f.)

⁶⁰ A paradigmatic example is provided by the rapid expansion of so-called ElderTech systems: digital monitoring devices, assistive platforms, predictive health technologies, and AI-driven care infrastructures designed for ageing populations. While presented as empowering tools, such systems often reconfigure autonomy through continuous data extraction, behavioural tracking, and anticipatory profiling, thereby embedding vulnerability within technological care environments. See V. CONTE, *La vulnerabilità digitale dell’anziano da esposizione al flusso informativo di contrattazione*, in TSDP, s.i. *Il volere nelle fragilità*, cit., 1 ff. S.A.I. EL SABI, *Anziani*, cit., 51 ff., esp. 56 ff.

coined in 2012 by Paolo Zatti⁶¹ and subsequently adopted within debates concerning the protection of vulnerable persons⁶² – within a space already configured by identity frameworks, classificatory models, and probabilistic assessments.

This condition is not entirely unprecedented. Legal systems have long confronted situations in which the individual's capacity for volitional expression remained intact while its articulation required technical mediation. Judicial practice has recognized, for example, that the validity of manifested will is not impaired merely because it is conveyed through assistive technologies (AT)⁶³. This

⁶¹ In 2012, on the initiative of Paolo Zatti, the working group “Per un diritto gentile in medicina” was established. From this initiative a broader national research network subsequently developed, now operating under the name “Per un diritto gentile” and, since 2022, coordinated by the Observatory “Per un diritto gentile nelle relazioni di cura”, founded within the Department of Political, Legal and International Sciences at the University of Padova.

⁶² Among the scientific initiatives that have further developed and consolidated this expression, one of the most recent is the conference and its published proceedings, *Un diritto gentile per la persona anziana. Atti del Convegno (3-4 novembre 2023, Università di Padova)*, a cura di A. Fusaro e M. Piccini, Pisa, 2024.

⁶³ Recent Italian constitutional case law has directly addressed the relationship between formal requirements of signature and technological mediation. The Corte Costituzionale (Corte Cost., 23 January 2025, no. 3) declared unconstitutional Article 1(3) of Law 17 February 1968 no. 108 (as amended by Law 06 March 2005, no. 82), insofar as it prevented individuals unable to affix a handwritten signature due to serious physical impediment or domiciliary voting conditions from endorsing electoral lists. The Court held that excluding digital or assisted forms of signature, where the individual is otherwise capable of expressing will, constitutes a disproportionate procedural aggravation and infringes Articles 2, 3, and 48 of the Italian Constitution. The decision emphasized that dignity is compromised when the legal system itself transforms disability into exclusion rather than providing proportionate technical accommodation. The ruling aligns with broader developments recognizing the juridical validity of technologically mediated manifestations of will. See, for instance, Trib. Monza, 20 June 2025, no. 1244; Trib. Udine, 06 May 2025, no. 338; Trib. Avellino, 08 February 2024, no. 296. Legislative reforms likewise

is evident, for instance, in cases concerning wills executed through the use of assistive devices; modalities that might appear, at first glance, to conflict with the stringent formalism traditionally permeating *mortis causa* acts, a rigidity whose resistance to ‘elasticization’ has recently been traced, in discussions of this kind, to the historical legacy of Roman testamentary formalism⁶⁴. In such cases, however, the decisive inquiry concerns not the existence of volition, but the fidelity of its attribution. Within AI-mediated infrastructures, analogous issues arise on a systemic scale. When behavioral traces are algorithmically translated into legally operative acts, the integrity of attribution becomes central. *Voluntas* is not extinguished; it is refracted through infrastructures that pre-

confirm this orientation: Legislative Decree 02 July 2010, no. 110 (reform of notarial law) permits electronic public deeds and authenticated electronic private writings; Law 22 December 2017, no. 219 (informed consent and advance directives) allows consent to be expressed in written, video-recorded, or digitally assisted form for persons with disabilities. At supranational level, the centrality of technological mediation for effective access to rights has been underscored in the context of disability law. On the relevance of assistive technologies for access to justice, see C. LAWRENCE, Z.E. SAPHIRO, J.J. FINS, *Brain-Computer Interfaces and the Right to Be Heard: Calibrating Legal and Clinical Norms in Pursuit of the Patient’s Voice*, in *Harvard Journal of Law & Technology*, 33.1, 2019, 167 ff.; J. MCVEIGH, *Operationalising Article 13 of the Convention on the Rights of Persons with Disabilities. The Role of Assistive Technology in Ensuring Access to Justice*, in *Front. Rehabil. Sci.*, 6(1650487), 30 October 2025, online. Since 28 June 2025, Italy enforces compliance with Directive (EU) 2019/882 (European Accessibility Act), updating minimum accessibility requirements for digital products and services. Earlier domestic foundations include Law 9 January 2004 no. 4 (so-called “Legge Stanca”), subsequently strengthened through AGID supervisory mechanisms and mandatory accessibility declarations for major private operators.

⁶⁴ A.A. MOLLO, D. NAPOLITANO, L.M. SICCA, *Il formalismo testamentario e le tecnologie assistive per le persone con disabilità: profili giuridici e organizzativi*, in *EJPLT*, 2, 2022, 102 f., with references.

allocate opportunities and constraints prior to conscious deliberation.

Relational asymmetry, moreover, acquires heightened intensity in contexts defined by data concentration and behavioral engineering. The capacity to profile users and steer decision-making through personalization enables modalities of influence that do not correspond to classical *vis* or *metus*. Instead of overt coercion, one encounters distributed pressure embedded within interface design like default settings, frictionless acceptance pathways, urgency cues, confirm-shaming prompts and subscription traps. These techniques – frequently categorized under the expression of ‘dark patterns’⁶⁵ – do not abolish choice; they orient its trajectory, as «stimuli are tailored to play to existing inclinations and choices become narrower, most of the time without awareness»⁶⁶. The subject appears to decide freely, yet the decision-making environment has been calibrated to privilege predetermined outcomes⁶⁷.

Traditional private-law categories capture only partial aspects of this phenomenon. Error presupposes a mistaken representation of fact; fraud requires intentional deception; duress depends upon a

⁶⁵ A. TIMILEYIN, *The Role*, cit., 29: «Dark patterns – design strategies that nudge users into actions they might not otherwise take – exploit cognitive vulnerabilities. These include forced continuity (auto-renewals without notice), disguised ads, or confusing opt-out processes. While these tactics may yield short-term engagement or revenue, they erode trust and violate the principle of informed user consent». This confirms that fragility arises not merely from ignorance, but from induced cognitive saturation.

⁶⁶ S. GRAFANAKI, *Drowning*, cit., 29. See also, for data processing, the remarks of S. THOBANI, *The ‘Consent Illusion’*, cit., 5 f., observing that individuals may be nudged either to give or to deny consent, and that concerns about genuineness often emerge only where the outcome enables data processing. This suggests that decisional distortion does not necessarily depend on conscious awareness, but on the broader architecture of informational exploitation.

⁶⁷ See *infra* § 4.3, on dark patterns.

recognizable threat. Many contemporary constraints, by contrast, operate differently, relying on cognitive biases, affective modulation, and design strategies that compress the temporal and cognitive space available for reflection while preserving the formal appearance of consent. The attenuation of will in such contexts is neither absolute nor exceptional: it is normalized within routine transactional settings, where the architecture itself becomes a co-producer of juridical engagement.

These developments exert sustained pressure upon the conceptual framework through which private law conceptualizes obligation. If binding force continues to be justified by reference to autonomous consent, yet consent increasingly emerges within engineered decision environments, the foundations of validity and responsibility require re-examination. The problem is not the disappearance of will, but its reconfiguration under conditions of infrastructural mediation that pre-structure preference formation and channel access to opportunity.

It is at this juncture that artificial intelligence assumes analytical centrality. AI does not merely intensify informational fragility or infrastructural dependency; it organizes and scales them through adaptive, data-driven systems. The present transformation is not a discrete technological episode but the cumulative outcome of globalization, digitalization, and automation operating at unprecedented velocity⁶⁸. Before analyzing AI as a structuring force of private normativity, however, it is necessary to clarify how these reconfigured vulnerabilities destabilize the traditional image of *voluntas* as the discrete and uncontaminated origin of juridical effects.

⁶⁸ See G. RESTA, *Prefazione*, cit., esp. XII f., describing artificial intelligence as the cumulative outcome of globalization, digitalization, and automation, and referring to R. Baldwin's notion of 'globotics upheaval'.

3. *AI as a Technology of Governance and of Private Ordering*

Artificial intelligence is frequently described in legal discourse as a constellation of technical tools: predictive analytics, recommendation engines, automated decision-making systems, natural language processing architectures. From the standpoint of private law, however, AI is less consequential as a discrete technological artefact than as a modality of governance. Its significance lies not merely in the outputs it generates, but in the way it configures the environment within which consent takes shape and obligations acquire juridical force.

In consumer markets and digital services, AI personalizes offers, hierarchizes products, curates interfaces and calibrates default settings. In finance and insurance, it performs credit scoring, risk classification, fraud detection and dynamic pricing. In employment, education, and housing, it supports screening, ranking and behavioral monitoring. These operations do not merely determine isolated outcomes; they intervene at an anterior and structural level, configuring the conditions under which individuals deliberate and act. AI thus operates upstream of consent, structuring the fields within which volition is articulated and legally recognized.

The tendency to conceptualize AI as an autonomous intermediary within private ordering has often been supported through analogy with Roman slavery. From Norbert Wiener's comparison between automation and 'slave labor'⁶⁹ to subsequent juridical proposals invoking the *dominus-servus* paradigm⁷⁰, the figure

⁶⁹ N. WIENER, *The Human Use of Human Beings. Cybernetics and Society*, 1950 (1989 edition), 162. On Wiener's reflections in relation to Roman analogies, see C. DE CRISTOFARO, *Diritto Romano*, cit., 81.

⁷⁰ On the subsequent reception of the automation-slavery analogy within Romanist scholarship, see C. DE CRISTOFARO, *Diritto Romano*, cit., 17 ff., 34 ff., 42 ff.; see also, for more recent contributions, H.J. ALEXANDER, J.A. SIMON, F. PINARD, *How Should the Law Treat Future AI Systems? Fictional Legal Personhood*

of the artificial agent as a modern slave has gradually shifted from rhetorical metaphor to quasi-doctrinal construct⁷¹. Such a parallel may be defensible as a heuristic device within philosophical argumentation; yet its coherence depends upon maintaining it within a deliberately approximative horizon. Once treated as a literal juridical model, its limitations become evident⁷².

The instability of such analogy emerges at a structural level⁷³. In Roman law – where, as has been observed, the ‘profound anthropological rootedness of law was already doctrinally defended by leading jurists⁷⁴ – the *servus* was unquestionably human: deprived of legal personality, yet never stripped of ontological humanity⁷⁵. The denial of juridical *status* functioned within an

versus Legal Identity, forthcoming in *Case Western Journal of Law, Technology & the Internet*, 2025-2026, online, 27 ff. of the draft (section entitled “Slavery, Vague Personhood Status and Labor Law”); M. PATEL, M. IMRAN, *Legal Personhood of Artificial Intelligence and the Liability Argument*, in *IJRLAS*, 10.9, 2025, 402 ff.; M.F. CURSI, *LA: modelli tradizionali di responsabilità e nuove prospettive*, in *AI LAW*, 1, 2026, 1 ff.; O.V. PAVLOV, *The Adaptability of Roman Law in the Integration of New Subjects and Objects of Law: A Cross-Sectional Analysis of History and Technological Innovation*, in *Scholars International Journal of Law, Crime and Justice*, 9.2, 2026, 52 ff.

⁷¹ C. DE CRISTOFARO, *Diritto Romano*, cit., 79 ff., with bibliography.

⁷² C. DE CRISTOFARO, *Diritto Romano*, cit., 88.

⁷³ C. DE CRISTOFARO, *Diritto Romano*, cit., 79 ff., 88 ff.

⁷⁴ F.H. LLANO ALONSO, *Transumanesimo, vulnerabilità e dignità umana: il giurista di fronte alle sfide della rivoluzione tecnologica 4.0*, in *Ordines*, 2, 2021, 117.

⁷⁵ The historical literature on Roman slavery is vast; from the late Republic onwards, it increasingly problematized the naturalization of servile *status*. Stoic thought played a decisive role in this reorientation. Posidonius, as reported by later sources (Diod. *bibl. hist.* 5.35-38; Strab. *geog.* 3.2.9), rejected radical dehumanization and emphasized the shared rational nature of all human beings. Seneca developed this position further: in *Epistulae ad Lucilium* (47.1, 47.10), he insists that slaves are *homines*, exposed to the same contingencies of fortune as their masters, and in *De beneficiis* he affirms that no ontological distinction separates *dominus* and *servus*. Epictetus (Epict. *diss.* 1.13.3-5) similarly grounds moral equality in common descent from Zeus, denying that juridical *status* can justify domination. While philosophical positions like these did not immediately

anthropocentric legal framework in which all law was conceived ‘*hominum causa*’⁷⁶: even when assimilated to an ‘atypical *res*’⁷⁷ for patrimonial purposes, the slave occupied a liminal position between object and person, marked by the possibility of manumission⁷⁸ and by persistent recognition of human faculties.

Artificial intelligence systems do not share with ‘slaves’⁷⁹ this ontological premise. They are not persons stripped of rights; they are artefacts to which personhood may be ascriptively attributed (so-called ‘*sogettività giuridica ascrittività*’⁸⁰). The direction of the

dissolve the legal structure of slavery, they contributed to a gradual reshaping of juristic sensitivity in the imperial period. Although Gaius continued to frame slavery within the conceptual dichotomy of *ius civile* and *ius gentium* (see esp. Gai. *inst.* 1.1), later jurists – notably Ulpian – articulated the principle that ‘*omnes homines aequales sunt*’ (Ulp. 43 *ad Sab.* D. 50.17.32), affirming equality at the level of natural law even where civil *status* diverged. This tension between positive law and natural equality did not abolish slavery in practice, but it destabilized its claim to ontological necessity and opened conceptual space for limits on dominical power. On the principal sources and their interpretation in literature, see C. DE CRISTOFARO, *Diritto romano*, cit., 105 ff., with further references.

⁷⁶ Herm. 1 *iuris epit.* D. 1.5.2: *Cum igitur hominum causa omne ius constitutum sit, primo de personarum statu ac post de ceteris, ordinem edicti perpetui secuti et his proximis atque coniunctis applicantes titulos ut res patitur, dicemus*. On the anthropocentric structure of Roman law and the centrality of the maxim *hominum causa*, see C. DE CRISTOFARO, *Diritto romano*, cit., 125 ff., with principal bibliography and discussions.

⁷⁷ On the patrimonial assimilation of the slave to an ‘atypical *res*’ and the limits of such qualification, see R. PERANI, *Intelligenza artificiale e Digesta Iustiniani. La casistica romana per un orientamento nella risoluzione automatizzata delle controversie*, Milano, 2023, 88. Further discussion on the *persona*-quality of Roman slaves in C. DE CRISTOFARO, *Diritto romano*, cit., 105 ff.

⁷⁸ C. DE CRISTOFARO, *Diritto romano*, cit., 124 f.

⁷⁹ The analogy to slavery must not be assumed in abstract or generalized terms, as warns us L. AMIRANTE, *Sulla schiavitù nella Roma antica*, in *Labeo*, 27, 1981, 28.

⁸⁰ For such taxonomy, see L. LOMBARDI VALLAURI, *Abitare pleromáticamente la terra*, in *Il meritevole di tutela. Studi per una ricerca coordinata da Luigi Lombardi Vallauri*,

analogy is therefore inverted. Roman law withdrew *status* from a human being; contemporary proposals (like the now almost abandoned concept of ‘electronic personhood’) risk conferring *status* upon a non-human entity⁸¹. These two operations are not symmetrical and differ not merely in degree, but in conceptual structure.

If AI reshapes private ordering, it does not do so as a ‘digital slave’ operating within a dominical hierarchy: its function is infrastructural rather than servile. It does not stand between contracting parties as a subordinate agent (a configuration that would risk moving toward the construction of a ‘phenomenal order progressively devoid of human presence, in which there is no space for law’, as Paolo Grossi has cautioned⁸²); it configures the environment within which their interaction unfolds. The decisive inquiry is therefore not whether the machine acts deceptively or autonomously, but how algorithmic architectures restructure the space in which human volition is formed, expressed, and juridically qualified or protected.

At first glance, AI may appear to represent merely an intensification of previously identified vulnerabilities. Through practices like informational overload or infrastructural dependency, what once manifested as episodic distortion now assumes systemic form, meaning that opacity is no longer incidental but statistically embedded in model design. It is precisely this capacity for systemic organization that renders AI attractive as a governance technology, promising to relieve cognitive burdens or rationalize allocation. Within this technocratic narrative,

Milano, 1990, VIII ff. On the transposition of the analogy to technological mediation, see C. DE CRISTOFARO, *Diritto romano*, cit., 61 ff.

⁸¹ See previous note, but also C. DE CRISTOFARO, *Diritto romano*, cit., 34 ff., 53 ff., 125 ff.

⁸² P. GROSSI, *Prima lezione di diritto*¹⁶, 2010 (but 2003), Bari, 11.

artificial intelligence appears as a compensatory mechanism, and an instrument designed to correct the cognitive and structural limitations of human decision-making.

Yet this same systemic capacity reveals a deeper ambivalence. The features that account for AI's efficiency – scale, adaptive personalization, accelerated processing, and the mentioned opacity intrinsic to complex models – simultaneously recalibrate the distribution of vulnerability. Anticipatory filtering can pre-empt deliberation by narrowing the horizon of perceived alternatives before reflective evaluation begins. Pervasive personalization invisibly hierarchizes options, shaping salience and perceived relevance. Predictive categorization, once operationalized, does not merely describe probabilities; it situates individuals within normative frameworks that influence subsequent opportunities and constraints. The analytical shift, therefore, moves beyond quantitative escalation. AI does not simply amplify existing contractual dynamics; it reorganizes them, and under such conditions it may 'render all individuals vulnerable'⁸³ as it systematically identifies and exploits decision-making heuristics at scale.

These transformations carry direct implications for private-law theory. Classical accounts of consent presuppose an agent who encounters a relatively stable set of options and selects among them, even if imperfectly informed. In AI-mediated contexts, however, the menu itself is dynamically configured through predictive inference. Consent is exercised within an environment that is continuously recalibrated in response to prior data flows. In this sense, AI operates as a technology of private norm-production, obliterating pure and unconditioned freedom which is the premise of the so-called 'regulatory will'. By shaping access to markets, calibrating price differentiation, determining eligibility thresholds,

⁸³ C.M. CASCIONE, N. VARDI, *Intelligenza artificiale*, cit., 4.

and ultimately structuring behavioral incentives, it generates *de facto* rules that function as quasi-normative frameworks governing transactional interaction, notwithstanding the absence of formal legislative enactment or explicit agreement. Normativity is thus partially displaced from text to digital ‘intelligent’ environment.

The regulatory response reflects awareness of this shift. Article 5(1)(c) of the Regulation (EU) 2024/1689 (AI Act)⁸⁴ prohibits certain forms of AI-based social scoring where they generate detrimental or disproportionate treatment. The intervention does not merely target defective manifestations of consent; it addresses systemic classificatory architectures that predetermine access to opportunities⁸⁵. The object of protection is not the isolated volitional act, but the integrity of the decision environment within which that act acquires juridical meaning⁸⁶.

Viewed through the lens of vulnerability, the ambivalence becomes even more evident. AI may alleviate specific fragilities – such as exposure to fraud or informational overload – while simultaneously producing new forms of opacity, dependency, responsibility diffusion, and scalable error. Individual misjudgment can be transmuted into systemic misclassification; isolated steering into algorithmic orchestration.

The central issue, therefore, is not whether AI ‘helps’ or ‘harms’. Such oppositions merely replicate the simplified contrasts already shown to be insufficient. The more exacting inquiry concerns redistribution: which vulnerabilities are attenuated, which

⁸⁴ Regulation (EU) 2024/1689 (Artificial Intelligence Act), Art. 5(1)(c). See also Annex III, point 5 (high-risk AI systems in access to essential services, including credit scoring).

⁸⁵ See C.M. CASCIONE, N. VARDI, *Intelligenza artificiale*, cit., 28 ff., noting that scoring mechanisms generate graded systems of access and exclusion that structure individual opportunity *ex ante*.

⁸⁶ On vulnerability as a structural correlate of asymmetries in *status*, authority, and knowledge, see C.M. CASCIONE, N. VARDI, *Intelligenza artificiale*, cit., 10.

intensified, and how the conditions under which *voluntas* is juridically recognized are reconfigured.

If consent continues to serve as the legitimating foundation of private law, yet the environment within which it is articulated is algorithmically constructed and adaptively optimized, the conceptual framework through which will is understood cannot remain unaltered, as AI does not abolish agency, but reshapes the modalities of its formation. And this is no longer a speculative concern. In fact, Article 5(1)(b) of AI Act⁸⁷ prohibits AI systems that exploit vulnerabilities of specific groups – including minors⁸⁸, persons with disabilities⁸⁹, or individuals in situations of social or economic disadvantage⁹⁰ – in order to materially distort their

⁸⁷ Regulation (EU) 2024/1689 (Artificial Intelligence Act), Art. 5(1)(b). On the risk-based structure of the AI Act, see Recitals 28-31.

⁸⁸ European data protection law already characterized minors as inherently vulnerable subjects requiring specific safeguards in relation to personal data processing; the AI Act extends this vulnerability-sensitive approach to algorithmic systems. See F. RUGGERI, *Autonomia e tutele dei minori utenti vulnerabili delle tecnologie digitali*, in *Fragilità e innovazione*, cit., 109 ff. It has recently been observed that, not by chance, the term ‘minor’, deriving from the Roman legal notion of *minor*, emphasizes precisely a condition of subordination, namely, a social and juridical inferiority from which there historically derived a *status* closer to object of law than to subject of law (so P. MICHELIN, G. SERGIO, *Comunicare con il minore*, in *Difendere, valutare e giudicare il minore. Il processo penale minorile, manuale per avvocati, psicologi e magistrati*, a cura di A. Forza, P. Michielin e G. Sergio, Milano, 2001, 418); adde D. CROCCO, *Il minore nella storia giuridica europea fra tutela ed educazione*, in *Ratio Iuris*, 19 September 2025, online. For a recent institutional framing of the subject (with extensive literature cited), see J. STAGL, G. MARAGNO, *Fälle beschränkter Handlungsfähigkeit*, in *Handbuch des Römischen Privatrechts*, hrsg. von U. Babusiaux, C. Baldus, W. Ernst, F.-S. Meissel, J. Platschek und T. Rübner, Berlin, 2023, 768 ff.

⁸⁹ See, recently, C. FRATTONI, *Profilazione mediante IA e tutela delle persone con disabilità*, in *Autonomia*, cit., 135 ff.

⁹⁰ See P.F. RIZZI, *‘Coming out’ algoritmici e invisibilità di genere nell’era dell’IA*, in *Autonomia*, cit., 177 ff.

behavior⁹¹. Vulnerability is thereby treated not solely as an *ex post* defect in an individual act of consent, but as an *ex ante* structural risk⁹², susceptible to technological ‘amplification’. Under such circumstances, the image of *voluntas* as the uncontaminated origin of binding effects becomes increasingly difficult to sustain.

The ambivalence inherent in AI-mediated ordering thus compels a re-examination of the categories through which private law conceptualizes consent, responsibility, and remedy. The fragilities generated in algorithmic environments do not align neatly with inherited doctrinal classifications; they expose the limits of overly rigid models of volitional autonomy and call for a more differentiated account of mediated agency.

4. *AI as a Generator and Redistributor of Vulnerabilities*

Artificial intelligence is frequently presented as a corrective device, capable of compensating for cognitive limits and restoring order within increasingly complex informational environments. From the internal perspective of private law, however, this characterization proves incomplete. Considered within the normative structure of contractual interaction, as we have seen so far, AI does not merely alleviate pre-existing weaknesses; it alters the pattern through which they are distributed. As previously suggested, asymmetries are not removed but reorganized and the juridical relevance of consent is reshaped at the level of the environment in which it is formed.

⁹¹ Digital child-protection frameworks have long adopted a model that treats autonomy and protection as structurally interdependent rather than mutually exclusive, calibrating technological design and institutional responsibility in light of developmental fragility. See F. RUGGERI, *Autonomia*, cit., 105 ff.

⁹² The rationale of this prohibition is to prevent manipulative practices, facilitated by automation, from exploiting cognitive and critical fragilities of weaker or vulnerable subjects, thereby generating significant harm, as noted in C.M. CASCIONE, N. VARDI, *Intelligenza*, cit., 10.

Three interwoven dynamics become particularly significant within this framework. First, opacity ceases to be a contingent deficit of information and assumes a systemic dimension, compounded by the scalability of algorithmic error. Second, infrastructural mediation generates forms of dependency – extending in some sectors, such as the labor market, to algorithmic systems that condition access to employment and reshape evaluative hierarchies⁹³ – accompanied by a diffusion of responsibility that strains traditional models of attribution. Third, the very structure of consent undergoes transformation within engineered decision environments, where volition is progressively anticipated, oriented, and incorporated into recursive feedback systems.

These dynamics are analytically distinguishable yet functionally intertwined. Together, they disclose the extent to which AI operates not merely upon discrete transactions but upon the structural ecology of private ordering itself.

⁹³ See, for example, the recent decision of Trib. Roma, Sez. Lav., 19 November 2025, no. 9135, which upheld the lawfulness of a dismissal for objective justified reason in the context of corporate reorganization supported by artificial intelligence. The case concerned a company operating in cybersecurity and cyber intelligence that, facing a proven financial crisis, reorganized its activities by concentrating resources on its technological core business and progressively reducing, and ultimately eliminating, graphic design and marketing functions. The reorganization included the introduction of AI tools that structurally reduced the need for such roles. The court held the dismissal lawful, provided that the employer discharged its burden of proof regarding the genuineness of the crisis and restructuring, the definitive suppression of the employee's duties, and the absence of suitable alternative positions (*repêchage*), thereby excluding any pretextual character of the termination (on this ruling, see G. FRAGALÀ, *Tribunale di Roma: sì a licenziamento per giustificato motivo oggettivo a seguito di riorganizzazione aziendale anche con supporto AI*, in *Diritto & Giustizia*, 238, 2025, 4).

4.1. *Opacity, Asymmetry, and Scalable Error*

Opacity in AI systems arises from cumulative sources: trade secrecy, technical complexity, the non-linearity of machine-learning models, and the fragmentation of design and deployment across multiple actors⁹⁴. Even when explanations are formally provided, they frequently fail to enable effective contestation. Meaningful access to training datasets, for example, remains exceptional rather than routine.

The resulting asymmetry departs significantly from classical configuration of informational disadvantage. The problem no longer concerns limited knowledge of contractual clauses or counterparty behavior, since what is obscured is the ‘generative process’ through which economic positioning and legal consequence are determined.

European data protection law has sought to respond to aspects of this condition. Article 22 of Regulation (EU) 2016/679 (GDPR) recognizes a right not to be subject to decisions based solely on automated processing that produce legal effects⁹⁵, while Articles 13-15 articulate transparency obligations regarding the logic of processing⁹⁶. Article 86 of AI Act further provides for explanatory

⁹⁴ For a broader discussion of opacity and the structural implications of algorithmic mediation in private law, see C. DE CRISTOFARO, *Diritto romano*, cit., 128 ff., 152 ff.

⁹⁵ Art. 22 GDPR establishes a qualified right not to be subject to decisions based solely on automated processing that produce legal effects or similarly significant impacts. The provision does not prohibit automation as such; rather, it conditions its legitimacy on safeguards such as human intervention, contestability, and transparency.

⁹⁶ Arts. 13-15 GDPR articulate a transparency-based model of governance, requiring data controllers to disclose the existence of automated decision-making (including profiling), provide meaningful information about the logic involved, and indicate the envisaged consequences for the data subject. These provisions reflect an informational paradigm: opacity is treated as remediable

rights in relation to certain high-risk systems⁹⁷. Yet these interventions remain predominantly situated within an epistemic framework⁹⁸: they assume that disclosure and explanation are capable, at least in principle, of restoring equilibrium. What remains less examined is whether the architecture of algorithmic environments itself constrains intelligibility in ways that cannot be remedied by informational supplementation alone.

A further dimension emerges when one considers scale. Within traditional private-law settings, error or misrepresentation ordinarily affected circumscribed transactions, but algorithmic systems operate differently. A distorted training dataset or a flawed modelling assumption, for example, do not remain confined to a single exchange: they propagate across entire populations of users. What would once have been an isolated injustice becomes embedded in repeated iterations of decision-making⁹⁹. The

through disclosure, rather than as a structural feature of computational environments.

⁹⁷ Article 86 of AI Act introduces a right to obtain clear and meaningful explanations where a high-risk AI system produces legal or similarly significant effects. Like the GDPR provisions on automated decision-making, it operates within a transparency-based framework: the remedy for opacity is disclosure and contestability.

⁹⁸ More structurally ambitious instruments – such as the Fundamental Rights Impact Assessment (FRIA) required for certain high-risk systems – shift the focus from *ex post* correction to *ex ante* architectural scrutiny, acknowledging that vulnerability may stem from the design of algorithmic environments rather than from isolated transactional defects. See S.A.I. EL SABI, *Anziani*, cit., 82 ff.

⁹⁹ Algorithmic age-bias offers a concrete illustration of scalable distortion. Predictive systems trained on historically skewed datasets may systematically disadvantage elderly users in areas such as credit access, insurance pricing or digital services. The bias does not stem from individual intent but from patterned data infrastructures whose effects operate as material constraints on juridical agency. See S.A.I. EL SABI, *Anziani*, cit., 73 ff. Recommendation systems similarly amplify behavioral vulnerabilities, particularly in minors, through iterative personalization and reinforcement mechanisms that transform isolated

multiplication of effects is not accidental; it is structurally embedded in the logic of computational replication.

Judicial practice has begun to confront these structural risks. In 2020, the District Court of The Hague declared unlawful the Dutch SyRI (System Risk Indication) programme¹⁰⁰, which relied on algorithmic profiling to identify potential welfare fraud. The Court emphasized the opacity of the system and the disproportionality of its interference with fundamental rights. This (leading¹⁰¹) case illustrates that large-scale inferential systems may generate vulnerability independently of individualized coercion: the harm lies in the architecture of classification itself.

The juridical difficulty, therefore, cannot be reduced to the identification of discrete wrongful acts. It concerns the governance of decision environments whose operative logic remains inaccessible and whose errors, once inscribed in code, replicate

misjudgments into conditioned behavioral trajectories. See F. RUGGERI, *Autonomia*, cit., 118 ff. and n. 52. Biometric border systems, on the other hand, provide an even clearer example: identity is reduced to statistically processed markers, and the individual appears as a probabilistic profile within interoperable databases rather than as a legal subject asserting claims. On the displacement of decision-making authority from articulated will to statistical inference, see G. SISTO, *Biometria e confini: le decisioni automatizzate nella gestione europea delle migrazioni*, in *Autonomia*, cit., 211 ff.

¹⁰⁰ Rechtbank Den Haag, 5 February 2020, ECLI:NL:RBDHA:2020:865 (SyRI). The Court found that the opacity and disproportionality of the system violated Article 8 ECHR. See S. RANCHORDÁS, Y. SCHUURMANS, *Outsourcing the Welfare State: The Role of Private Actors in Welfare Fraud Investigations*, in *EJCL*, 7, 2020, 5 ff.; M. VAN BEKKUM, F. ZUIDERVEEN BORGESIUS, *Digital Welfare Fraud Detection and the Dutch SyRI Judgment*, in *EJSS*, 20(10), 2021, 1 ff.; A. RACHOVITSA, N. JOHANN, *The Human Rights Implications of the Use of AI in the Digital Welfare State: Lessons Learned from the Dutch SyRI Case*, in *Human Rights Law Review*, 22, 2022, 1 ff.

¹⁰¹ I. KASTANAS, G. PAVLIDIS, *Algorithmic Administration and the EU AI Act: Legal Principles for Public Sector Use of AI*, in *Journal of Ethics and Legal Technologies*, 7(2), 2025, 59 ff.

across innumerable interactions. Under such conditions, vulnerability ceases to be episodic and becomes infrastructural.

4.2. *Dependency and Diffusion of Responsibility*

AI-based governance entails sustained reliance upon technical infrastructures whose architecture, maintenance and recalibration remain beyond the effective control of individual participants. Access to markets and services, then, increasingly depends upon platforms whose operational continuity and internal configuration are externally determined. Participation is thus conditioned not merely by ‘formal’ contractual terms, but by prior inclusion within infrastructural systems that structure eligibility, visibility, and opportunity.

Within such complex ecosystems, the *locus* of responsibility becomes difficult to stabilize. The design of models and the curation of datasets, and their subsequent integration into operational services, occur across differentiated institutional sites. When harm materializes, its immediate manifestation rarely coincides with a single decisive act, and the operative outcome may be attributed to statistical inference, inherited training bias or automated recalibration processes embedded in earlier design choices. What emerges here is not the absence of action, but a dispersion of contributory acts whose coordination renders authorship opaque.

This phenomenon, commonly described as an ‘accountability gap’¹⁰², should therefore be interpreted with caution. It does not signal a metaphysical void of responsibility but rather reveals a

¹⁰² On the notion of ‘accountability gap’ in distributed technological environments, see B.J. KOOPS, M. HILDEBRANDT, D.O. JACQUET-CHIFFELLE, *Bridging the Accountability Gap: Rights for New Entities in the Information Society*, in *Minnesota Journal Law Science and Technology*, 11.2, 2010, 497 ff. For a structural reading within private-law theory, see C. DE CRISTOFARO, *Diritto romano*, cit., 128 ff.

structural tension between distributed technological production and legal categories historically oriented toward unitary authorship. While, on one hand, traditional attribution models presuppose an identifiable agent whose volitional act generates legal consequence, on the other hand AI-mediated environments involve layered contributions that resist reduction to a single point of origin.

Roman private law confronted a structurally analogous problem when economic activity was conducted through actors lacking full legal personality. That experience should not be invoked naively as a repository of ready-made institutional analogies, nor as a source of attractive doctrinal metaphors. Its relevance lies instead in the structural solution adopted.

Rather than personifying the intermediary – the underlying rationale, as Maria Floriana Cursi has incisively clarified in reflections on analogous questions, lay precisely in the fact that the slave was subject to the *dominica potestas* of the *dominus*, ‘the only one who could answer for the conduct of persons and things subjected to his power’¹⁰³ –, Roman jurists articulated differentiated regimes of attribution. The *peculium* did not transform the slave into a legal subject; it defined a patrimonial sphere within which economic activity could unfold while preserving the *dominus* as the ultimate ‘juridical anchor’ (in a structural configuration not dissimilar to that governing the relationship between the *pater familias* and acts undertaken by the *filius familias*). Indeed, the so-called *actiones adiecticiae qualitatis*¹⁰⁴ developed calibrated mechanisms of

¹⁰³ M.F. CURSI, *LA*, cit., 5.

¹⁰⁴ On the medieval re-elaboration and conceptual consolidation of the *actiones adiecticiae qualitatis*, see A. GUARINO, *s.v. ‘Actiones adiecticiae qualitatis’*, in *NNDI*, I, Torino, 1957, 270 f. For the subsequent doctrinal refinement of these actions and their structural logic of liability allocation beyond personal authorship, see M. MICELI, *Sulla struttura formulare delle actiones adiecticiae qualitatis*, Torino, 2001, 7 f. n. 1, 9 f. n. 3. On their relevance for contemporary debates concerning

accountability through which liability could be confined to the allocated fund (the *actio de peculio*¹⁰⁵, the *actio de in rem verso*¹⁰⁶ and the *actio tributoria*¹⁰⁷), extended in proportion to the benefit (*utilitas*) obtained by the principal, or rendered unlimited where prior authorization (*praepositio* or *iussum*) to the so called ‘manager slave’¹⁰⁸

distributed responsibility and non-unitary models of attribution, see C. DE CRISTOFARO, *Diritto romano*, cit., 134 ff.

¹⁰⁵ On the *actio de peculio* see P. KRÜGER, *Zur formel der actio de peculio*, in *ZSS*, 21, 1890, 190 ff.; S. SOLAZZI, *Studi sull’actio de peculio*, I. *Actio de peculio contro venditore e compratore*, in *BIDR*, 17, 1905, 208 ff.; ID., *Studi sull’actio de peculio*, II. *Actio de peculio contro usufruttuario e proprietario*, in *BIDR*, 18, 1906, 229 ff.; ID., *Studi sull’actio de peculio*, III. *Actio de peculio “ancto peculio”*, in *BIDR*, 20, 1908, 5 ff.; I. BUTI, *Studi*, cit., 18 ff.; M. MICELI, *Sulla struttura*, cit., 233 ff.; R. PESARESI, *Studi*, cit., 29 ff.; J.-J. AUBERT, *Dumtaxat de peculio*, cit., 194 f.

¹⁰⁶ On the principal lines of interpretation of the *actio de in rem verso* and related forms of patrimonial attribution, see M. MICELI, *Sulla struttura*, cit., esp. 297 ff. and n. 128.

¹⁰⁷ On the *actio tributoria* and its function, see E. VALIÑO, *La actio tributoria*, in *SDHI*, 33, 1967, 103 ff.; T.J. CHIUSI, *Contributo allo studio dell’editto De tributoria actione*, in *Atti Accademia Nazionale dei Lincei*, III.4, 1993, 283 ff.; M. MICELI, *Sulla struttura*, cit., 325 ff. and n. 201, with cited literature; A. PETRUCCI, *Per una storia della protezione dei contraenti con gli imprenditori*, I, Torino, 2007, 79 ff.; J.-J. AUBERT, *Dumtaxat de peculio*, cit., 201 f.

¹⁰⁸ The expression appears programmatically in A. DI PORTO, *Impresa collettiva e schiavo ‘manager’ in Roma antica (II sec. a.C. – II sec. d.C.)*, Milano, 1984 and has since become consolidated in the sectoral lexicon (including beyond strictly juridical discourse), as noted by L. GAGLIARDI, *Lo schiavo manager*, in *La grande storia – L’antichità*, X. *Roma. Storia politica, economica e sociale II*, a cura di U. Eco, Milano, 2011, 348 ff. It should now be added that Di Porto has recently returned on the topic in *Instrumentum vocale e instrumentum artificiale. Messa a punto e minime riflessioni*, in *Tecnologie e diritto*, 5.2, 2024, 351 ff., where, in light of the contemporary debate on autonomous AI, he revisits and refines the functional analogy between the Roman slave manager and AI systems. Although this more recent contribution was not yet available at the time of my monographic study, it deserves express acknowledgment here: Di Porto clarifies with particular force that neither the managerial autonomy of the slave nor the existence of the *peculium* entailed any form of subjectivation of the slave, since liability – whether contractual or extra-

had generated legitimate reliance¹⁰⁹ (*actio exercitoria*¹¹⁰, *institoria*¹¹¹ and

contractual – ultimately remained allocated to the *dominus*, within a framework structured by praetorian actions and patrimonial separation. The emphasis placed on the non-personalizing function of the *peculium*, on the objective allocation of responsibility, and on the strategic modulation of liability regimes (notably in the field of maritime enterprise) aligns closely with the structural reading developed in my own work. The present reference is therefore not occasional but programmatic: the renewed elaboration offered by Di Porto confirms and further sharpens an interpretation of the ‘manager slave’ that resists anthropomorphic projections and instead foregrounds a model of instrumental autonomy embedded within a controlled regime of responsibility.

¹⁰⁹ On the informational and organizational dimension of delegated commercial activity, see E. COSTA, *Le azioni exercitoria e institoria nel diritto romano*, Parma, 1891, 61 f.; J.-J. AUBERT, *Business Managers in Ancient Rome. A Social and Economic Study of Institores, 200 B.C. – A.D. 250*, Leiden-New York-Köln, 1994, 12 and n. 39; M. MICELI, *Sulla struttura*, cit., 204 and n. 31; A. PETRUCCI, *Mensam exercere. Studi sull’impresa finanziaria romana (II secolo a.C. – metà del III secolo d.C.)*, Napoli, 1991, 317 n. 9, 319 f. n. 17; ID., *Profili giuridici delle attività e dell’organizzazione delle banche romane*, Torino, 2002, 158 ff.; ID., *Per una storia della protezione dei contraenti con gli imprenditori*, I, Torino, 2007, 22 ff.; ID., *Organizzazione ed esercizio delle attività economiche nell’esperienza giuridica romana. I dati delle fonti e le più recenti vedute dei moderni*, Torino, 2021, 67 and n. 55, 194.

¹¹⁰ For the principal doctrinal reconstructions of the *actio exercitoria*, see E. COSTA, *Le azioni*, cit.; F. DE MARTINO, *Studi sull’actio exercitoria*, in *Riv. dir. navig.*, 7.1-2, 1941, 7 ff.; ID., *Ancora sull’actio exercitoria*, in *Labeo*, 4, 1958, 274 ff.; G. PUGLIESE, *In tema di actio exercitoria*, in *Labeo*, 3, 1957, 308 ff.; G. LONGO, *Actio exercitoria, actio institoria, actio quasi institoria*, in *Studi in onore di G. Scherillo*, II, Milano, 1972, 620 ff.; M. MICELI, *Sulla struttura*, cit., esp. 187 ff; ultimately, F. ROSSI, *Statuto soggettivo e intermediazione gestoria: alcune riflessioni su D. 14.1.1.16 e D. 14.3.7.1*, in *RDR*, 22, 2022, 280 f. n. 23, with more literature cited.

¹¹¹ Main bibliography: E. COSTA, *Le azioni*, cit.; E. ALBERTARIO, *L’actio quasi institoria. Contributo alla storia della rappresentanza nel diritto romano*, in ID., *Studi di Diritto Romano*, IV. *Eredità e processo*, Milano, 1912, 187 ff.; G. LONGO, *Actio*, cit.; M. MICELI, *Sulla struttura*, cit., esp. 187, ff.; M.J. BRAVO BOSCH, *Consideraciones en torno a la actio institoria*, in *Fundamentos romanísticos del derecho contemporáneo*, II. *Derecho de personas*, coordinado por S. Castán Pérez-Gómez, Madrid, 2021, 133 ff.

*quod iussu*¹¹²).

The insight for AI-mediated governance is structural rather than analogical. Responsibility need not be conceived as either concentrated in a single actor or displaced onto the technological system itself. It may instead be distributed according to functional criteria¹¹³, taking account of *ex ante* allocation of risk through defined patrimonial structures and *ex post* attribution in proportion to effective control and economic advantage derived from the system's operation. Viewed from this perspective, the so-called accountability gap appears less as an absence than as a failure of 'juridical calibration'. Multiple actors contribute to, and benefit from, the architecture that shapes consent; the task of private law is therefore to trace control, advantage, and structured reliance across this network of participation rather than to identify a fictitious technological author¹¹⁴.

¹¹² On the *actio quod iussu*, M. MICELI, *Sulla struttura*, cit., 315 n. 180 for the main bibliographical coordinates; G.C. SEAZZU, *Iussum e mandatum. Alle origini delle actiones adiecticiae qualitatis*, II. *Iussum: autorizzazione o comando*. *Fonti*, Cagliari, 2020, esp. 77 ff.

¹¹³ On heterogeneous legal frameworks as a response to distributed technological agency, see K. HEINE, A. QUINTAVALLA, *Bridging the Accountability Gap*, cit., 78 arguing that more heterogeneous liability models may better reflect the dynamic and distributed character of AI technologies.

¹¹⁴ For a systematic reconstruction of the debate on delegated liability and the contemporary relevance of Roman models of subjection, see C. DE CRISTOFARO, *Diritto romano*, cit., 146 ff. The present reference to the Roman construction is neither a revival of the *peculium* as a separate patrimonial center for artificial agents nor an endorsement of fictional technological personhood. Its relevance lies in the structural articulation of responsibility: *ex ante* delimitation of exposure through a defined patrimonial sphere, combined with *ex post* attribution proportionate to effective control and economic advantage (*utilitas*). In this configuration, the *peculium* does not function as a device to shield the *dominus* from liability; rather, it organizes risk within economically identifiable structures while preserving ultimate responsibility. The Roman model thus offers a differentiated grammar of attribution – linking patrimony, benefit,

Even before harm assumes an overtly pathological dimension, the structural implications for private law are considerable. If consent is articulated within algorithmically configured environments, the question arises as to who bears juridical responsibility for the architecture that influences its formation. Upon whom does the evidentiary burden fall where alleged distortion is embedded within proprietary systems inaccessible to the weaker party? The classical model, built upon identifiable actors and traceable volitional acts, is strained where both identification and traceability are technologically mediated.

Consider, for instance, age-verification mechanisms within AI-driven platforms¹¹⁵. Formal age thresholds may be stipulated, yet verification procedures often remain declaratory or technically fragile. The vulnerability of minors is not eliminated; it is redistributed across platform providers, guardians, and users in ways that blur responsibility without dissolving it. The absence of robust assurance mechanisms does not remove risk; it displaces its juridical evaluation across multiple layers of infrastructural and relational involvement¹¹⁶.

A different configuration emerges in the context of interoperable biometric systems¹¹⁷. Where decision-making depends upon the interaction of distinct databases and algorithmic

authorization, and operational control – that may inform contemporary debates on AI-mediated agency without collapsing into analogical transposition. Whether such structural logic can extend beyond contractual contexts into extra-contractual regimes remains a distinct doctrinal question.

¹¹⁵ As noted by F. RUGGERI, *Autonomia*, cit., 121 ff.

¹¹⁶ For example, see the Italian “Decreto Caivano” (Decreto-Legge 15 September 2023, no. 123, converted into Legge 13 November 2023, no. 159), particularly Art. 13-*bis* introducing age-verification obligations for online platforms to restrict minors’ access to pornographic content, with subsequent implementing measures adopted by AGCOM (Deliberation no. 96/25/CONS).

¹¹⁷ See G. SISTO, *Biometria*, cit., esp. 229 f.

matching processes, the operative outcome results from a chain of technical and administrative interventions. For the affected individual, the decisive classification may appear as an opaque fact, without clear indication of which institutional node generated it or which normative assumptions informed it. Responsibility does not vanish, though; it becomes diffused across administrative implementation and policy choices.

In such AI-mediated environments, therefore, fragmentation of responsibility is not accidental but structural. The architecture influencing consent is collectively produced, while inherited legal models continue to search for a singular authorial will. The tension that ensues underscores the inadequacy of frameworks predicated upon unitary volition and concentrated attribution.

4.3. *The Paradox of Consent under Choice Architectures*

The most far-reaching vulnerability generated by AI may concern not access to information or allocation of risk, but the transformation of consent itself. In digitally mediated environments, consent increasingly appears as behavioral residue: a click, a scroll, a pause, a default confirmation. These traces are aggregated and processed to estimate, for example, willingness to pay and recalibrate subsequent interactions. What is thereby displaced is the relational dimension of consent: once reduced to data, it becomes a signal to be modelled rather than a volitional act addressed to another.

In its classical juridical configuration, consent was never mere adhesion. Emerging from the Roman conception of *consensus*, as Cosimo Cascione has emphasized in his remarkable study on the topic, it presupposed a will oriented toward the will of another and directed to a shared juridical object¹¹⁸. The contractual paradigm is

¹¹⁸ C. CASCIONE, *Consensus. Problemi di origine, tutela processuale, prospettive sistematiche*, Napoli, 2003, 5 f., where the distinction between consent and assent is carefully

relational before it becomes computational. When consent is translated into a datapoint within predictive architectures, that relational structure is progressively attenuated, the interaction ceases to unfold between subjects and is instead mediated through adaptive systems that pre-structure response.

This dynamic becomes particularly visible in recursive environments. Emotion Recognition Systems (ERS) in digital interfaces offer a paradigmatic illustration: by analyzing facial expressions, vocal modulation, micro-gestures, or biometric indicators, such systems infer affective states and adjust interaction or pricing/content flows accordingly. In contexts involving elderly users or individuals in situations of heightened dependency, this modelling may operate less as neutral responsiveness and more as anticipatory alignment with emotional susceptibility. The mechanism does not resemble classical ‘deception’, but emerges as a technique of anticipatory modelling of emotional susceptibility intervening directly in the formation of will¹¹⁹. The system learns from behavior it has already shaped through personalization, ranking, and interface design. Consent, then, becomes both input and output of the same adaptive structure¹²⁰ and «when platforms

articulated, with extensive engagement with the relevant scholarship. Within a voluntaristic framework, consent is understood as the will of one subject directed toward the will of another (and thus juridically meaningful only insofar as it takes the form of a reciprocal act, rather than a unilateral adhesion), as opposed to a will directed merely toward the object of another’s activity. These conceptual distinctions, which in the present study are examined with specific reference to the multiple semantic layers of *consensus* emerging from Roman sources, constitute the basis of the modern notion of consent as consolidated in nineteenth-century doctrinal systematization and subsequently filtered through the codifications.

¹¹⁹ See S.A.I. EL SABI, *Anzjani*, cit., esp. 61 ff., 69 ff.

¹²⁰ The dynamics become even more pronounced where AI systems simulate relational interaction. Smart toys and conversational agents designed for children do not merely collect data; they emulate companionship, responsiveness, and

claim they merely reflect their users' preferences, they ignore the role they have in shaping the very preferences they claim to reflect»¹²¹.

Such recursive structuring raises an unavoidable question of responsibility. If consent emerges within environments architecturally oriented toward particular outcomes, distortions cannot easily be mapped onto traditional categories of fault. Artificial systems do not harbor intent in the juridical sense; they operationalize optimization logics embedded by human actors. The difficulty, ultimately, lies not in attributing *mens rea* to code, but in identifying how deliberative space has been shaped upstream of any individual decision.

For this reason, the temptation to treat the technological system itself as the *locus* of juridical distortion must be resisted. Roman law, when confronted with harm produced through intermediaries lacking full legal capacity, did not attribute delictual intent to the instrument: liability was traced back to identifiable human actors (the *dominus*), who could resort to mechanisms such as *noxae deditio*¹²² in order to avoid direct responsibility. The absence of *iniuriae capacitas*¹²³ in the intermediary did not generate a normative vacuum, but triggered differentiated regimes of indirect attribution.

emotional reciprocity. When devices are presented as entities that 'understand', 'respond', and 'grow' with the user, the boundary between object and subject becomes blurred. In such contexts, the child's vulnerability does not stem from misinformation alone, but from affective reliance within an asymmetrical technological relationship (F. RUGGERI, *Autonomia*, cit., 115 ff., esp. 117 f.).

¹²¹ S. GRAFANAHI, *Drowning*, cit., 31.

¹²² See C. DE CRISTOFARO, *Diritto romano*, cit., 158 ff.

¹²³ C. DE CRISTOFARO, *Diritto romano*, cit., 161 and n. 730, with reference to the studies of Sara Galeotti and, in particular, for present purposes, to *Ricerche sulla nozione di damnum*, II. *I criteri di imputazione del danno tra lex e interpretatio prudentium*, Napoli, 2016, 233 and n. 87, with detailed bibliographical references.

A similar structural logic is required in AI-mediated consent architectures. The pertinent inquiry is not whether the machine ‘distorts’ consent, but which actors designed, calibrated, deployed, or derived advantage from the environment that shaped the user’s deliberative field. Attribution must follow control, foreseeability, and structured benefit rather than the apparent autonomy of interface behavior.

Traditional dogmatics tends to treat consent as either valid or vitiated, present or defective¹²⁴. Algorithmic environments, however, rarely involve overt threats or explicit misrepresentation. Instead, they progressively erode the temporal and cognitive conditions necessary for reflective choice: interface strategies that privilege immediacy, minimize friction for acceptance, and complicate refusal do not annul consent, but they narrow the space within which it can be critically formed. Such practices – which, we have seen¹²⁵, are often grouped under the label of ‘dark patterns’ – demonstrate that constraint may operate architecturally rather than episodically.

Notably, regulatory developments have begun to recognize this dimension. The California Privacy Rights Act (2020), for example, explicitly defines ‘dark patterns’ as interface designs that substantially impair autonomy and decision-making¹²⁶. Within the

¹²⁴ See J. LEWIS, *Safeguarding Vulnerable Autonomy?*, cit., 311 ff., esp. 313.

¹²⁵ See *supra* § 2.

¹²⁶ See California Privacy Rights Act (CPRA), Cal. Civ. Code § 1798.140(l), defining ‘dark pattern’ as a user interface designed or manipulated with the substantial effect of subverting or impairing user autonomy, decision-making, or choice. For regulatory and enforcement developments addressing subscription traps, misleading pop-ups, ‘roach motel’ practices, confirmshaming techniques, and pre-ticked consent mechanisms, see EU Commission Guidance, FTC reports, and EDPB Guidelines 03/2022 on dark patterns in social media interfaces. See also the proposed Deceptive Experiences To Online Users Reduction Act (DETOUR Act), introduced in the U.S. Senate on 12 July 2021, aimed at prohibiting large online operators from employing manipulative

European Union, Article 25 of Regulation (EU) 2022/2065 (Digital Services Act)¹²⁷ prohibits design practices that deceive or

interface designs to obtain personal data or induce consent, and from conducting behavioral experiments without informed consent, with particular safeguards for minors. On the EU side, see Regulation (EU) 2022/2065 (Digital Services Act), establishing transparency obligations and restrictions on profiling-based manipulation practices in digital platforms. The progressive juridical operationalization of vulnerability in European and international law confirms this structural understanding. Already the Barcelona Declaration on Bioethics (1998) framed vulnerability, alongside autonomy and dignity, as a guiding principle for normative intervention. Article 8 of the UNESCO Universal Declaration on Bioethics and Human Rights (2005) requires that ‘human vulnerability’ be taken into account in the application of scientific and technological developments. At EU level, Directive 2011/36/EU defines a ‘position of vulnerability’ as a situation in which a person has ‘no real and acceptable alternative but to submit to the abuse involved’, Art. 2(2)-(4), rendering consent irrelevant where exploitation is grounded in such vulnerability. The Court of Justice of the European Union has treated vulnerability as a context-sensitive category operating across social, economic and environmental domains, distinguishing between intrinsic fragility and heightened exposure to external risk. The European Court of Human Rights has likewise relied on vulnerability to justify intensified positive obligations of protection in cases concerning minors, victims of violence, migrants, and other structurally exposed groups. For a systematic reconstruction, see L. SOLIDORO, *Il volere*, cit., 16 ff. See also the guiding principles outlined in the *Report of Working Group on the issue of human rights and transnational corporations and other business enterprises* of the Human Rights Council, 59th Session, *Artificial Intelligence Procurement and Deployment: Ensuring Alignment with the Guiding Principles on Business and Human Rights*, A/HRC/59/53, 14 May 2025.

¹²⁷ Regulation (EU) 2022/2065 (Digital Services Act), Art. 25 (Online interface design and organization), prohibiting providers of online platforms from designing, organizing, or operating their interfaces in a manner that deceives or manipulates recipients of the service or materially distorts or impairs their ability to make free and informed decisions. The provision expressly addresses interface-based manipulation, including the prominence of specific choices, repetitive consent requests through pop-ups, and asymmetrical termination procedures (so-called ‘subscription traps’). It clarifies that the prohibition

materially distort users' capacity to make free and informed choices. These interventions move beyond isolated deception and acknowledge that the configuration of the decisional environment may itself constitute a legally relevant site of constraint¹²⁸.

Yet, such regulatory responses oscillate between structural intervention and group-based protection¹²⁹. A risk nonetheless persists: when vulnerability is framed as a characteristic of predefined vulnerable groups, it may reintroduce 'paternalistic logics'¹³⁰ and obscure the more pervasive dimension of technologically structured fragility. The deeper significance of these measures lies elsewhere: they implicitly concede that the core

operates without prejudice to Directive 2005/29/EC and Regulation (EU) 2016/679 (GDPR).

¹²⁸ Child-centered digital regulation makes the architectural dimension explicit. The UK Age Appropriate Design Code, for instance, seeks to protect children not by excluding them from digital environments, but by imposing design obligations grounded in their best interests. See F. RUGGERI, *Autonomia*, cit., 105 ff., 112.

¹²⁹ On the risks of over-general regulatory frameworks and the need for targeted, sector-specific intervention in the field of AI, see G. RESTA, *Prefazione*, cit., XIII f., critically discussing horizontal EU approaches and referring to the proposal for a Digital Omnibus (COM(2025) 836 final). A parallel debate has emerged in child digital protection, highlighting the tension between architecture-based safeguards and prohibition-based responses; see F. RUGGERI, *Autonomia*, cit., esp. 114, including the analysis of the UK Age Appropriate Design Code and the Australian Online Safety Amendment (Social Media Minimum Age) Act 2024. The open-ended character of vulnerability as a legal category raises structural difficulties: European and international sources provide heterogeneous and non-exhaustive lists of vulnerable subjects, while jurisprudence increasingly adopts a situational and case-sensitive approach. As Solidoro observes (L. SOLIDORO, *Il volere*, cit., esp. 21 ff.), vulnerability resists definitive crystallization and operates as an 'open category' in continuous expansion.

¹³⁰ L. RE, *Vulnerabilità*, cit., 189.

issue is not misinformation alone, nor overt coercion, but the engineered modulation of the deliberative field.

The paradox of consent under AI-mediated choice architectures is therefore structural rather than episodic. Consent continues to be expressed, recorded, operationalized, and its disappearance is not an ‘issue’ in the strict sense of the term: what is transformed are the conditions of its emergence. Between autonomous initiation and guided response lies an increasingly narrow interval in which volition is formed under conditions of anticipatory design. What comes into view is not the erosion of will, nor its unproblematic persistence, but a mediated and relational *voluntas* whose juridical evaluation resists reduction to simplified oppositions

If private law is to remain conceptually adequate to these transformations, it must refine its account of constrained agency. Recognition of gradations in mediated will – without collapsing into either technological determinism or formalist abstraction – becomes, then, indispensable. Only within such a recalibrated analytical framework can the law engage the recursive architectures through which consent is now generated, captured, and reconfigured.

5. *The Binary Structure of Modern Will Theory and its Limits*

The vulnerabilities disclosed within AI-mediated environments do more than expose regulatory *lacunae*. They bring into view a deeper tension embedded in the conceptual structure of modern private-law thought. As previously indicated¹³¹, prevailing doctrine continues to organize consent around an oppositional schema: volition is either sufficiently autonomous to generate binding effects or sufficiently compromised to justify avoidance. Between these endpoints, corrective devices may be deployed (like

¹³¹ See *supra* § 1.

proportional remedies or enhanced duties of disclosure) but the foundational framework remains intact.

Yet this framework is neither self-evident nor inevitable. It is the product of historical abstraction. Modern dogmatics inherited its conception of will through a process culminating in the nineteenth-century Willenstheorie¹³², in which the legal act (Rechtsgeschäft) was conceptualized as the outward expression of an internally coherent and self-transparent volition. Within this model, coercion appears as negated freedom, error as a cognitive deviation, and fraud as deliberate interference. Each category presupposes a stable core of volitional autonomy that is either preserved or impaired. ‘Will’, thus, operates as a threshold concept: once present and legally recognizable, obligation arises; if compromised, it may be undone or neutralized. This configuration reflects not a logical necessity, but the sedimentation of a particular epistemic choice within European legal science. As has been persuasively observed, autonomy is not ‘an intrinsic attribute of the

¹³² On which see F.C. VON SAVIGNY, *System des heutigen Römischen Rechts*, III, Berlin, 1840, 3 ff.; B. WINDSCHEID, *Lehrbuch des Pandektenrechts*⁶, I, Frankfurt am Main, 1887, 186, 218 ff.; ID., *Wille und Willenserklärung*, in *AcP*, 1880, esp. 98 f. Still indispensable, moreover, are the foundational pages that critically reconstruct the main coordinates of the debate in M. BRUTTI, *La sovranità del volere nel Sistema di Savigny*, in *Quaderni Fiorentini*, 9.1, 1980, 265 ff.; see, more recently, A.M. GAROFALO, *Le regole costitutive del contratto. Contributo allo studio dell'autonomia privata*, Napoli, 2018, 7 ff. For present purposes, see in particular S. ROMANÒ, *Omissive Fraud During Negotiations from the Perspective of Contractual Liability*, in *Individual Will*, cit., 257 ff.; M. SCOGNAMIGLIO, *Invitus*, cit., 273 ff.; C. DE CRISTOFARO, *The Absent Voluntas*, cit., 289 ff. On the strict connection between the so-called ‘closed number’ of defects in the formation of will and the Pandectist construction of the late nineteenth century – a framework that reflects a historically situated dogmatic operation rather than a conceptual necessity – see L. SOLIDORO, *Il volere*, cit., 6 on the late nineteenth-century consolidation of this scheme and its limited sensitivity to structural fragilities in juridical autonomy.

human condition¹³³ but serves as the outcome of social, institutional, and political arrangements that sustain and protect it.

It has been likewise argued, on the other hand, that law (*ius*) was an ‘invention’ of Roman civilization¹³⁴, not in the sense of originating normativity, but in constituting law as a distinct and technical discipline, governed by its own vocabulary and methodological constraints. This ‘intellectual gesture’ of autonomy laid the groundwork for Western legal dogmatics. Roman legal culture, however, did not construct a system of dogmatics in the modern-civil-law-sense¹³⁵. Its reasoning remained predominantly casuistic and responsive to context, even when later reorganized within the Justinianic Compilation¹³⁶, in fact the systematic coherence retrospectively attributed to Roman law owes much to nineteenth-century reconstruction. The Pandectist movement abstracted from Roman casuistry the categories that would structure modern private-law doctrine. Within that intellectual transformation, *voluntas* assumed a central organizing role, becoming the interpretive axis through which validity, efficacy, and responsibility were evaluated.

In this process, the semantic flexibility of Roman *voluntas* was progressively compressed. The vocabulary of *volens*, *nolens*, and *invitus* – capable of registering gradations of agency and guiding

¹³³ L. RE, *Vulnerabilità*, cit., 189.

¹³⁴ A. SCHIAVONE, *Ius. L’invenzione del diritto in Occidente*², Torino, 2017, *passim*.

¹³⁵ The contemporary expansion of vulnerability-based doctrines also reflects a broader transformation of the rule of law, whereby courts increasingly incorporate fundamental values into private-law reasoning. The growing prominence of principles and evaluative standards – often derived from human rights discourse in the so-called ‘age of rights’ – renders private law more open-textured and normatively infused. Such developments may enhance corrective justice, yet they simultaneously intensify indeterminacy. See L. SOLIDORO, *Il volere*, cit., 30.

¹³⁶ As noted, among many, by F. GALLO, *Definizione celsina e dottrina pura del diritto*, in *TSDP*, 4, 2011, 171.

remedial calibration – was reorganized within rigid oppositions. Contextual differentiation yielded to abstract polarity; ambivalent or constrained agency was recoded as deviation from an idealized model of intact autonomy. This inherited conceptual structure continues to shape contemporary doctrine, often invisibly. Its logic appears self-evident precisely because it is embedded in the conceptual categories through which legal reasoning proceeds. AI-mediated environments do not overtly contradict this structure, but they destabilize it from within, since algorithms do not eradicate volition, nor do they replicate classical forms of coercion, but they modulate its formation. They intervene upstream, configuring contexts, ranking options, and orienting behavioral pathways in ways that resist assimilation to traditional vitiating factors.

The resulting difficulty for dogmatics is then conceptual rather than merely classificatory: it arises in the intermediate space between the subject's legal capacity and the formation of consent itself, particularly where manifestations of consent are understood not solely as discrete acts but as processes unfolding over time, so that the relationship with the counterparty becomes an internal element of the very process through which consent is formed¹³⁷. These phenomena neither collapse into established categories or leave consent untouched, but the insistence upon rigid oppositions – free or vitiated¹³⁸, resulting in valid or defective acts – risks distorting rather than clarifying the juridical landscape.

Modern doctrine tends to typically respond along two lines. One expands inherited categories, stretching fraud to encompass manipulative interface design or reinterpreting duress in light of

¹³⁷ A. FUSARO, *Il contratto*, cit., 1186.

¹³⁸ J. LEWIS, *Safeguarding Vulnerable Autonomy?*, cit., 313 f., with specific critical references to the 'individualistic' and 'abstract' autonomous agent paradigm in common law and its implications for situational vulnerability.

infrastructural dependency¹³⁹. The other proceduralizes the problem, strengthening transparency duties, disclosure requirements, and *ex post* review mechanisms, sometimes supplemented by juridical fictions deployed to compensate for the limits of interpretative extension¹⁴⁰. Both approaches may be defensible. Yet both remain internal to the inherited conceptual framework (the ‘grammar of will’).

The deeper limitation lies in the assumption that *voluntas* is a punctual even, identifiable at the moment of declaration and capable of being evaluated retrospectively as intact or compromised. Algorithmic governance, instead, reveals a temporally extended and environmentally conditioned formation process, «thereby shifting the cost of [...] practices onto the individual themselves»¹⁴¹. It unfolds within adaptive systems that

¹³⁹ Comparative developments show that legal systems increasingly supplement classical defects of consent with what doctrine has termed ‘new vices’. European competition law addresses abuse of dominant position (Art. 102 TFEU), while Italian law recognizes abuse of economic dependence (Law no. 192/1998, Art. 9). These figures do not presuppose traditional error or threat; rather, they target structural imbalances capable of distorting contractual equilibrium. They orbit around the broader prohibition of abuse of rights and represent an expansion of the grammar of consent beyond its classical taxonomy (see L. SOLIDORO, *Il volere*, cit., 37 f.).

¹⁴⁰ On this point, see L. SOLIDORO, *Il volere*, cit., 40; EAD., *Il diritto post-moderno tra ‘Comfort Zone’ della tradizione e nuovi spazi euro-globali*, in *Liber amicorum per Massimo Panebianco*, Napoli, 2020, 1469 ff., including critical reflections on adaptive interpretive techniques and deconstructive approaches to legal text influenced by Derridean methodology.

¹⁴¹ Thobani develops a reflection of particular relevance for data governance, though not expressly framed in those terms. She argues that consent may function as a mechanism obscuring corporate accountability, insofar as the mere formal expression of agreement is treated as sufficient, irrespective of the modalities through which such consent was obtained or formed (S. THOBANI, *The ‘Consent Illusion’*, cit., *passim*, esp. 2).

anticipate behavior, recalibrate options, and personalize incentives across time.

Under such conditions, the traditional inquiry, “Was the will free(ly formed and expressed)?”, loses analytical precision¹⁴². Agency does not vanish; nor does it remain insulated. It is mediated, distributed, and shaped by infrastructures that do not correspond neatly to classical notions of mistake or coercion. The difficulty that emerges is epistemic. It concerns the adequacy of the conceptual instruments through which private law articulates obligation and responsibility. Where vulnerability operates at an infrastructural and adaptive level – as evident, for instance, in regulatory debates regarding minors’ engagement with digital platforms¹⁴³ – mere proliferation of exceptions to a rigid rule cannot suffice.

What is therefore required is not abandonment of autonomy as a normative value, but its rearticulation, which cannot be achieved through incremental doctrinal adjustment alone. It calls for a methodological re-examination of how the category of will has been historically constructed and then abstracted, and of whether that abstraction remains conceptually sustainable under conditions of technologically mediated agency.

¹⁴² This evolution reflects a broader displacement within private-law reasoning. Classical doctrine focused on the subjective integrity of free will, while, on the other hand, contemporary developments increasingly require objective structural assessment. The decisive inquiry is no longer exclusively whether the will was psychologically free, but whether the surrounding context offered a reasonable and meaningful alternative. The center of gravity thus shifts from the internal sphere of volition to the structural configuration of the decision environment (L. SOLIDORO, *Il volere*, cit., 37).

¹⁴³ As noted by F. RUGGERI, *Autonomia*, cit., 110, regulatory approaches concerning minors in digital environments provide an instructive example of this reconceptualization. By recognizing a ‘digital year’ age of consent below majority, the GDPR reflects a dynamic understanding of identity formation and endorses a model of progressive autonomy rather than categorical incapacity.

5.1. *Not 'Roman Nostalgia': What Legal History has to Offer*

The relevance of Roman law in this context is neither ideological nor restorative. It does not consist in transplanting ancient solutions, in the form of «timeless principles»¹⁴⁴, into (or, also, onto) contemporary technological problems and disputes. Its significance for these issues lies – as already observed in early 1990s scholarship by Samuel¹⁴⁵ – in its capacity to illuminate the reciprocal formation of social fragility and juridical response in the face of processes of progressive ‘automation’ and the correlated risk of a functional ‘dehumanization’ of legal structures¹⁴⁶. Historical inquiry shows that vulnerability did not enter Roman legal reasoning as an abstract theorization. It emerged from concrete social tensions that were gradually translated into normative articulation. At times, legislative initiative provided the catalyst; in other instances, the synergy between *prudentes*, magistrates, and judges introduced forms of protection without statutory initiative. What remains constant is that fragility entered juridical reasoning as a response to social realities and philosophical reflection, not as a closed dogmatic category¹⁴⁷.

A preliminary clarification, elementary yet essential, must precede any methodological appeal. The Roman legal materials available today are mediated through the structure of the *Corpus Iuris Civilis*, itself the product of a late-antique editorial and pedagogical enterprise or, as Riccardo Orestano memorably suggested, ‘at once a manifestation of, and a solution to, the

¹⁴⁴ Addressed in their material dimension in B. SITEK, *Roman Law and New Technologies – Timeless Principles in the Digital Era*, in *Teka Komisji Prawniczej PAN Oddział w Lublinie*, 18.1, 2025, 351 ff.

¹⁴⁵ G. SAMUEL, *The Challenge of Artificial Intelligence: Can Roman Law help us discover whether Law is a System of Rules?*, in *Legal Studies*, 11, 1991, 24 ff.

¹⁴⁶ See F.H. LLANO ALONSO, *Transumanesimo*, cit., 110 ff., with extensive bibliography.

¹⁴⁷ See the foundational reflections of L. SOLIDORO, *Il volere*, cit., 44 f.

(historical) problem of Roman law¹⁴⁸. As modern scholarship has convincingly demonstrated, the Digest does not simply transmit classical juristic reasoning, but reflects a sixth-century Compilation shaped by late imperial policy, didactic objectives and ideological selection (often masked as preservation)¹⁴⁹. The apparent ‘dogmatic order’ encountered in the Justinianic sources cannot therefore be treated as direct evidence of classical conceptual architecture. To invoke Roman categories without acknowledging this mediating layer risks flattening a historically stratified legal experience into an ‘a-historical’ construct. The vitality of Roman legal culture lies precisely in its layered formation and adaptive resilience, not in any imagined systematic purity.

Engagement with legal history thus imposes a discipline upon contemporary juristic thought. It confronts the reader with a legal culture that addressed consent, constraint, and responsibility without relying upon the abstract conceptual scaffolding later consolidated by modern dogmatics. As reflections on the foundations of European private law have emphasized¹⁵⁰, the

¹⁴⁸ R. ORESTANO, *Introduzione allo studio storico del diritto romano*², Torino, 1963 reprint, 509.

¹⁴⁹ On the necessary methodological cautions, see J. GAUDEMET, *Tentatives de systématisation du droit à Rome*, in *Arch. de philos. du droit*, 31, 1986, 275 ff., where the author carefully distinguishes between a casuistic approach and a systematizing orientation, the latter becoming more prominent in the later historiography of Roman law, particularly in its tendency to project a unitary and structured image onto juristic materials. See also the recent reassessment in J.F. STAGL, *Der Tempel der Gerechtigkeit. Zur Morphologie und Hermeneutik der Pandekten*, Paderborn, 2023, esp. 49 ff., with extensive bibliography.

¹⁵⁰ At a conference held in Trento in December 2018 on the “Foundations of European Law,” Laura Solidoro emphasized the importance of historical-legal methodology as a safeguard against self-projections that risk distorting the effectiveness of Romanist studies and the broader Roman-law tradition. With specific regard to private law in its evolutionary dimension, she highlighted how elements of continuity often prevail over narratives of rupture or discontinuity.

historical method operates as a safeguard against projection: it resists the retroactive imposition of modern abstractions upon ancient materials and cautions against mistaking structural resemblance for conceptual identity. The point is not recovery of doctrine, but critical distance.

The relevance of Roman categories thus exceeds antiquarian reconstruction. Contemporary European and transnational frameworks have witnessed a rapid juridical operationalization of vulnerability, often propelled by cross-border doctrinal exchange and judicial dialogue. A distant structural parallel may be discerned in the ‘permeability of normative boundaries’¹⁵¹ characteristic of Roman antiquity, where intellectual discourse, adjudicatory practice and political authority interacted in shaping legal categories. Such analogy, though, does not imply identity of outcomes. It highlights instead a shared dynamic: legal concepts evolve through institutional negotiation rather than through static abstraction.

Within this perspective, the historical study of *voluntas*, *vis*, *metus*, *utilitas*, acquires methodological significance. Roman juristic reasoning, indeed, did not reduce agency to dichotomy between intact and impaired will, since its vocabulary allowed for contextual modulation, often oriented toward remedial calibration rather than ontological classification. *Voluntas* was not conceived as a purely interior psychological datum, but acquired juridical meaning within procedural forms, relational configurations, and assessments of institutional utility. Nor can it be isolated from the epistemic distinction between *ius* and *lex*: legal meaning emerged through

See the published version of the intervention in L. SOLIDORO, *I Fondamenti ‘romanistici’ del diritto europeo. Contenuti, finalità e limiti della disciplina*, in *Fondamenti del diritto europeo. Esperienze e prospettive. Atti del Convegno (Trento, 13-14 dicembre 2018)*, a cura di G. Santucci, P. Ferretti e S. Di Maria, Trieste, 2019, 189 ff.

¹⁵¹ L. SOLIDORO, *Il volere*, cit., 43.

interpretive mediation rather than through mere legislative command.

Such methodological displacement proved instructive in the age of artificial intelligence. Contemporary discourse frequently resorts to metaphorical shorthand: ‘the algorithm decided’¹⁵², ‘AI as an agent’¹⁵³, ‘automated will’. These expressions risk obscuring juridical analysis by conflating attribution with agency. Historical inquiry tempers this inflation, demanding conceptual precision. Which act produces legal effects, under which institutional configuration, and through what mechanism of attribution? Where agency is mediated, how are consequences distributed? The focus shifts from metaphor to structure

By engaging a legal culture in which categories developed through casuistic reasoning and remedial adjustment rather than through systematic abstraction (and when «problems are considered from the point of view of general theory, [...] imagined cases play a considerable, perhaps even a predominant, part»¹⁵⁴), the jurist acquires analytical distance from contemporary rigidity. Legal history may not – and does not mean to – furnish ready-made solutions to algorithmic governance, but provides a disciplined mode of inquiry capable of resisting both technological determinism and uncritical adherence to inherited conceptual schemes.

In this sense, the study of Roman law offers methodological vigilance rather than substantive transplantation. It displaces the assumption that current abstractions are conceptually necessary and reopens the possibility of alternative ways of articulating

¹⁵² M.W. MONTEROSSO, *Algorithmic Decisions and Transparency: Designing Remedies in View of the Principle of Accountability*, in *The Italian Law Journal*, 5.2, 2019, 711 ff.

¹⁵³ M.K. SIDHU, *Agents of the Future: Understanding AI’s Role in Modern Agency Relationships*, in *Indian Journal of Integrated Research in Law*, 4.3, 2024, 689 ff.

¹⁵⁴ F. SCHULZ, *History of Roman Legal Science*, Oxford, 1946, 130.

agency. Such reorientation is indispensable if private law is to confront technologically mediated forms of will without dissolving responsibility into technical opacity or persisting in categories that no longer correspond to the realities they purport to describe.

5.2. Volens, nolens, invitus: *A Semantic Model of Constrained Agency*

If the historical method discloses the contingency of modern dogmatic abstractions, the Roman semantic constellation of *volens*, *nolens*, and *invitus* offers a particularly instructive way of conceptualizing constrained agency without collapsing it into rigid oppositions¹⁵⁵.

Roman legal culture did not reduce volition to the mere presence or absence of interior assent. The recalled terms *volens*, *nolens*, and *invitus* functioned within concrete normative and procedural settings – against a background in which one can nonetheless discern the operative presence of a principle of ‘personal responsibility’, later consolidated and transmitted within the Romanistic tradition¹⁵⁶ –, marking relational positions rather than psychological states. *Nolens* expressed refusal¹⁵⁷; *volens* acceptance¹⁵⁸; *invitus* described an act performed under pressure or against preference without automatically depriving it of juridical

¹⁵⁵ C. DE CRISTOFARO, *The Absent Voluntas*, cit., 293 ff.

¹⁵⁶ G. SANTUCCI, *Il principio di autoreponsabilità: profili romanistici*, in *Il principio di autoreponsabilità nella società e nel diritto. Atti del Convegno (Trento, 16 e 17 settembre 2022)*, a cura di G. Fornasari, T. Pasquino, G. Santucci, Trento, 2023, 57 ff.; ID., *Chi è causa del suo mal pianga se stesso*, Bologna, 2024, *passim*.

¹⁵⁷ A. FORCELLINI, s.v. ‘Nolo’, in *Lexicon totius Latinitatis*, III, curante F. Corradini, Patavii, 1864-1926 (1965 reprint), 381 ff.

¹⁵⁸ A. FORCELLINI, s.v. ‘Volo’, in *Lexicon totius Latinitatis*, IV, curante I. Perin, Patavii, 1864-1926 (1965 reprint), 1030 f.

efficacy¹⁵⁹. Such vocabulary did not presuppose that constraint necessarily dissolved legal form, but allowed for recognition of agency exercised under tension.

The nuance of *invitus* is particularly revealing. Roman sources attest that acts carried out under compulsion could retain effectiveness under the *ius civile*. Paulus, discussing acceptance of inheritance, observes that even where violence intervened, acceptance remained operative because, although one would not have wished it if free, “nevertheless, compelled, I did want it” (*quamvis si liberum esset noluissem, tamen coactus volui*: D. 4.2.21.5¹⁶⁰). Similarly, Celsus affirms that a marriage concluded under constraint remains valid insofar as it is not contracted “between unwilling persons” (*non inter invitos*: D. 23.2.22¹⁶¹). In these formulations, *voluntas* is not negated by pressure, but is juridically interpreted as constrained participation.

Such recognition did not entail indifference to coercion. Roman law developed differentiated mechanisms capable of responding to imbalance without conceptual annihilation of the act. For instance, certain statuses (for example minors, those under *tutela*, the insane, the prodigal) were treated as structurally limited in juridical determination. Elsewhere, remedial intervention operated through praetorian instruments such as *restitutio in integrum*¹⁶² or the *exceptio*

¹⁵⁹ A. FORCELLINI, *s.v.* ‘Invitus’, in *Lexicon totius Latinitatis*, II, curante F. Corradini, Patavii, 1864-1926 (1965 reprint), 930; see also S. MASO, “*Desiderium voluntas non est*”, in *Paradeigmata voluntatis. All’origine della concezione moderna di volontà*, a cura di E. Cattanei e S. Maso, Venezia, 2021, 85 ff.

¹⁶⁰ Paul. 11 *ad ed.* D. 4.2.21.5: *Si metu coactus adii hereditatem, puto me heredem effici, quia quamvis si liberum esset noluissem, tamen coactus volui: sed per praetorem restituendus sum, ut abstinendi mihi potestas tribuatur.*

¹⁶¹ Cels. 15 *dig.* D. 23.2.22: *Si patre cogente ducit uxorem, quam non duceret, si sui arbitrii esset, contraxit tamen matrimonium, quod inter invitos non contrahitur: maluisse hoc videtur.*

¹⁶² On this point, with specific reference to the present analytical focus, see M. BRAMANTE, *Turbamento della volontà negoziale dovuto allo stato di bisogno e di pericolo del*

*legis Laetoriae*¹⁶³. In cases of moral pressure, remedies including the *actio quod metus causa*¹⁶⁴, *exceptio metus (causa)*¹⁶⁵, *in integrum restitutio propter metum*¹⁶⁶ addressed inequity without presupposing juridical-ontological nullity. Even in *actiones bonae fidei*, judicial assessment integrated considerations of contextual imbalance into equitable adjudication¹⁶⁷.

contraente. Lineamenti storico-giuridici della disciplina rimediale alla asimmetria delle prestazioni, in TSDP, s.i. *Il volere nelle fragilità*, cit., 1 ff., esp. 8 ff., 24 ff.

¹⁶³ As is well known, *Lex Laetoria* (c. 200 BCE), addressed the condition of young males between fourteen and twenty-five years of age. Though fully capable under the *ius civile*, they were exposed to exploitation due to inexperience. The praetorian response did not deny their capacity; rather, it introduced corrective remedies that acknowledged situational vulnerability without dismantling formal competence. The category of *minoritas* thus functioned as a juridical recognition of relational fragility rather than ontological incapacity (see S. DI SALVO, *Lex Laetoria. Minore età e crisi sociale tra il III e il II a.C.*, Napoli, 1979, *passim* and, for what concerns this analysis, L. SOLIDORO, *Il volere*, cit., 46 f.; G. GRECO, *La circonvenzione di incapace: dalla Legge Laetoria allo 'stato di dipendenza'*, in TSDP, s.i. *Il volere nelle fragilità*, cit., 1 ff., esp. 8 ff.; A. CARAVAGLIOS, *Vulnerabilità e minore età: l'adulescens luxuriosus*, in TSDP, s.i. *Il volere nelle fragilità*, cit., 1 ff., esp. 6 ff.).

¹⁶⁴ On its possible historical antecedent, the so-called *formula Octaviana*, see F. TUCCILLO, *Violenza e realtà editale in Cicerone: spunti in tema di formula Octaviana*, in TSDP, s.i. *Il volere nelle fragilità*, cit., 1 ff., with extensive bibliography. On the *actio quod metus causa*, see E. CALORE, *Actio quod metus causa. Tutela della vittima e azione in rem scripta*, Milano, 2008, *passim*; F. PULITANÒ, *La violenza nella contrattazione: tutela processuale e legittimazione passive*, in *Actio in rem e in personam. In ricordo di Mario Talamanca*, a cura di L. Garofalo, Padova, 2011, 665 ff.; J. GAULHOFER, *Metus. Der prätorische Rechtsschutz bei Furcht, Zwang und Gewalt*, Wien-Köln-Weimar, 2019; I. PONTORIERO, *I vizi*, cit., 64 ff.

¹⁶⁵ E. CALORE, *Actio*, cit., 156 ff.; I. PONTORIERO, *I vizi*, cit., 70 ff., both with extensive bibliography.

¹⁶⁶ E. CALORE, *Actio*, cit., 156 f.; I. PONTORIERO, *I vizi*, cit., 65 n. 40, both with extensive bibliography.

¹⁶⁷ In relation to our purposes, see S. GALEOTTI, *Error and Contractual Synallagma in Ulpian's Thought*, in *Individual Will*, cit., 198 ff.

Roman legal experience also confronted vulnerability rooted not in individual incapacity but in socio-economic fragility. Conditions of *egestas* and *paupertas* prompted institutional responses that evolved over time, from patrimonial preservation to assistance-oriented measures, as exemplified in imperial *alimenta* schemes under Nerva and Trajan¹⁶⁸. These initiatives did not render acts performed by economically fragile persons void; they recalibrated the institutional environment within which agency operated. Fragility was treated as a circumstance requiring normative modulation rather than categorical exclusion.

The conceptual significance of this approach lies in its refusal to equate constraint with inexistence. Ulpian's remark that nothing is more contrary to consent than *vis* and *metus* (D. 50.17.116 pr.¹⁶⁹), and that those who err do not appear to consent (D. 50.17.116.2¹⁷⁰), did not crystallize into automatic (abstract) nullity. It informed, indeed, a jurisprudence attentive to contextual conditioning and procedural response, so that agency could be acknowledged as operative yet pressured and judicial consequences could be adjusted without erasing the act itself.

This semantic elasticity allowed gradations. A person might act unwillingly yet volitionally (*coactus voluit*¹⁷¹) and legal response would be shaped accordingly. Preference overridden by fear did not obliterate form; it triggered assessment of remedy. *Voluntas* was neither elevated to an untouchable sovereign faculty nor reduced to a mere psychological datum. It was constructed through juridical interpretation within relational and procedural frameworks. The contemporary significance of this model does not reside in direct

¹⁶⁸ See L. SOLIDORO, *Il volere*, cit., 47 and n. 146, with extensive bibliography.

¹⁶⁹ Ulp. 11 *ad ed.* D. 50.17.116 pr.: *Nilil consensui tam contrarium est, qui ac bonae fidei iudicia sustinet, quam vis atque metus: quem comprobare contra bonos mores est.*

¹⁷⁰ Ulp. 11 *ad ed.* D. 50.17.116.2: *Non videntur qui errant consentire.*

¹⁷¹ See *supra* n. 160.

transplantation into digital contexts. Instead, it resides in the alternative grammar it exemplifies. Instead of asking exclusively whether consent was valid or defective, analysis may attend to the modality, intensity, and structural positioning of constraint, and to the appropriate calibration of response. The question, then, shifts from categorical classification to relational assessment.

In algorithmic environments, where influence operates through personalization, ranking, and interface design rather than overt violence, such a gradational perspective becomes particularly pertinent. The user who clicks ‘accept’ within a pre-configured decision architecture is neither straightforwardly coerced nor fully unconditioned. The situation escapes classical *vis* or *dolus malus*, yet cannot be assimilated to pristine autonomy. A juridical vocabulary capable of registering constrained yet operative agency becomes indispensable.

The Roman semantic field demonstrates that legal systems may acknowledge intermediate forms of volition without forfeiting coherence. It offers not nostalgia but orientation: a reminder that juridical reasoning need not reduce will to stark presence or absence. Between annihilation and idealized autonomy lies a spectrum of interpreted agency, one that contemporary private law must once again learn to articulate.

5.3. *From Roman Elasticity to Modern Fragilities under AI*

The comparison with Roman elasticity should not be misunderstood as normative idealization. Roman law could display rigidity; acts extorted under pressure might retain civil validity; vulnerability was frequently addressed through *status*-based incapacities rather than through a general theory of fragility. The historical reference therefore serves not as an evaluative preference for antiquity, but as a structural counterpoint.

The contrast concerns the configuration of analysis. Modern private-law doctrine, shaped by the Will Theory of the legal act,

isolates the moment of consent and subjects it to a standard premised on the integrity of volition. Even where conditioned will was acknowledged, its unity remained conceptually intact. The so-called ‘attenuated will’ elaborated in the Pandectist tradition¹⁷², was not conceived as a temporally unfolding or relationally situated process, but as a declaration whose effectiveness depended upon a determinable external circumstance. That circumstance, once identified, was absorbed into the evaluative framework without disrupting the conceptual coherence of the act itself.

Algorithmic environments destabilize this premise. The formation of will is no longer episodically influenced by a discrete external factor; it unfolds within settings that precede and structure deliberation, so that what appears as freedom of choice may, in fact, amount to a form of *apparentia iuris*. In such contexts, the predominance of Appearance over Substance – as has recently been observed¹⁷³ – risks displacing the principle of reality, not unlike simulation concealing the institution it purports to represent, and generating what may be described as a genuine ‘revolution of the inner forum’, understood here as the internal forum of conscience. Conditioning does not operate primarily through bilateral interaction, as in classical accounts of error or duress, but through infrastructural arrangements that configure

¹⁷² According to the dominant Pandectist conception of will, even the so-called ‘conditioned’ or ‘attenuated’ will remains unitary. What is at stake is not the addition of a second will to an initial declaration, nor the coexistence of two distinct volitional moments, but a single declaration expressing a will shaped by specific circumstances. As Windscheid explains, the ‘bedingte Willenserklärung’ does not consist in the declaration of a first and then a second will; rather, it is the declaration of a will that is from the outset qualified by the condition (B. WINDSCHEID, *Lehrbuch*, I, cit., 265). In this construction, the conditioned declaration is ‘eine einzige’, not the juxtaposition of two separate acts of volition.

¹⁷³ F. GIULIMONDI, *Diritto, diritto e libertà in un mondo tecnocratico*, in *amministrativ@mente*, 1, 2026, 13 of the extract.

access, visibility, and salience. Personalization reorganizes alternatives, while dependency complicates exit and opacity limits the capacity for meaningful contestation. What is at stake is not interference with a self-contained act, but modulation of the field within which the act takes shape.

The Pandectist insistence on the unity of the volitional declaration presupposes that the conditioning element can be identified and circumscribed. Under AI-mediated governance, conditioning assumes a diffuse and persistent character: it anticipates behavioral tendencies, recalibrates options over time and integrates prior interaction into subsequent structuring and action. The model of a single, externally conditioned act proves inadequate where the environment of deliberation is itself continuously reorganized. Fragility in such contexts is not exceptional deviation but a structural feature of digital private ordering. To assess these dynamics exclusively through categories devised for bilateral deception or overt coercion either stretches those categories beyond recognition or renders the phenomena conceptually invisible.

Contemporary scholarship has attempted to refine the concept of autonomy in response. Accounts such as Jonathan Lewis's theory of 'self-authorized, intersubjective autonomy' distinguish autonomy from mere cognitive capacity or formal consent¹⁷⁴, emphasizing reflective endorsement of one's reasons. These contributions enrich the internal dimension of agency. Yet algorithmic fragility often arises prior to that internal reflection. The difficulty lies not solely in whether the subject identifies with

¹⁷⁴ See J. LEWIS, *Safeguarding Vulnerable Autonomy?*, cit., esp. 328 ff. Lewis develops a normative account of 'self-authorized, intersubjective autonomy' grounded in analytic feminist philosophy and relational theories of autonomy, sharply distinguishing autonomy from mental capacity and informed consent, and criticizing the individualistic paradigm of common law.

her reasons, but in how the space within which reasons become available is structured, filtered, and ranked. What therefore requires reconsideration is not autonomy in abstraction, but the juridical process through which will is attributed and effects are generated.

The Roman semantic model offers orientation at precisely this juncture. By treating constrained participation as juridically intelligible rather than as a simple defect, it redirected attention from metaphysical purity of volition to contextual positioning and remedial calibration. The central inquiry shifted from the immaculate state of consent to the conditions under which agency was exercised and the normative consequences appropriate to those conditions.

Under AI governance, fragility is normalized through systemic design. Volition is neither extinguished nor unqualifiedly sovereign; it is anticipated, channeled, and integrated into adaptive feedback structures¹⁷⁵. Roman experience demonstrates that legal reasoning can register such ambivalence without forfeiting coherence, by linking contextual evaluation of agency to differentiated responses rather than resorting to categorical invalidation.

The historical reference thus performs a critical function. It reveals that conceptual rigidity is contingent, not necessary. If contemporary private law is to address technologically mediated forms of fragility, it must recover the capacity to articulate constrained agency in graduated terms, without losing sight of law's intrinsic orientation toward the realization of its purpose, traditionally expressed as the *ars boni et aequi*¹⁷⁶ – a binomial that, as Mantovani has observed, ancient jurists enriched, particularly in

¹⁷⁵ See J. LEWIS, *Safeguarding Vulnerable Autonomy?*, cit., *passim*, but esp. 306 ff., 311 ff.

¹⁷⁶ As recalled in the well-known Celsian definition, reported in Ulp. 1 *inst* D. 1.1.1 pr.

contexts of vulnerability, with the further requirement of *utilitas*¹⁷⁷ –, an orientation progressively overshadowed by the emergence of mechanistic and post-human conceptions of law as a purported ‘*ars utilis et mechanarum*’¹⁷⁸. The narrowing of semantic flexibility that accompanied later systematic abstraction need not be irreversible.

This reorientation has implications extending beyond consent. Where agency is distributed across infrastructural systems and temporally extended processes, responsibility cannot be confined to a single punctual *locus*. A recalibrated understanding of will invites a corresponding reconsideration of imputation. Rather than attributing juridical effects to a fictional technological subject, legal analysis may need to account for differentiated forms of control, design, deployment, and economic advantage embedded within AI systems. Recognition of mediated agency at the level of consent thus anticipates a parallel reconfiguration of responsibility.

6. *Conclusive Remarks. Vulnerability, Artificial Intelligence, and the Reconfiguration of Juridical Will*

The path followed in these pages has not sought to dramatize artificial intelligence as a rupture in legal civilization, nor to elevate Roman law into a repository of ready-made solutions. Its aim has been more exacting: to show that AI exposes a fragility already inscribed within the modern construction of juridical will.

Private law continues to anchor obligation and responsibility in the free formation of consent. That construction presupposes a subject whose deliberative capacity is treated as internally coherent and sufficiently insulated from its environment. A vulnerability-oriented perspective destabilizes this presupposition (typical of the

¹⁷⁷ D. MANTOVANI, *Giuristi romani e storia dell'economia antica. Elementi per una dialettica*, in *Il diritto allo stato puro? Le fonti giuridiche romane come documento della società antica*, a cura di C. Buzzacchi e I. Fagnoli, Milano, 2021, 188 ff., with references.

¹⁷⁸ F.H. LLANO ALONSO, *Transumanesimo*, cit., 115.

liberal tradition¹⁷⁹) by foregrounding the situated and relational character of agency. Artificial intelligence intensifies what was already present: it amplifies structural conditioning and reorganizes the environment within which preferences are shaped, perceived, and ultimately acted upon¹⁸⁰.

The resulting tension does not consist in the ‘disappearance of will’. Individuals continue to choose, subscribe, transact: what shifts is the relation between the formal image of autonomous consent and the engineered architectures through which consent is produced¹⁸¹. When legal analysis persists in evaluating agency through rigid oppositions (valid or void, free or coerced) it risks either overlooking infrastructural conditioning or stretching inherited categories beyond their conceptual coherence, getting lost itself in that «sameness of treatment» typical of «formal equality»¹⁸².

Historical inquiry reveals that such rigidity is contingent. Roman legal culture articulated *voluntas* within a semantic and remedial framework capable of registering constraint without collapsing juridical order. Its significance lies not in doctrinal transplantation but in methodological displacement. It reminds us that what appears conceptually necessary is often the sediment of historical abstraction. Artificial intelligence functions, in this sense, as a stress test for private law, and not just a «bridge between the present and

¹⁷⁹ M.A. FINEMAN, *The Vulnerable Subject*, cit., 2 ff.; see V. GIORDANO, *Alle radici*, cit., 4, who, with specific reference to the problem of vulnerability, identifies a ‘crisis of the liberal model of the unitary legal subject’.

¹⁸⁰ As noted by L. RE, *Vulnerabilità*, cit., 188 f., the vulnerability theory does not replace equality; rather, it enriches the understanding of substantive equality by exposing relations of dependency and structural disadvantage that formal autonomy obscures.

¹⁸¹ In consonance, see M.A. FINEMAN, *The Vulnerable Subject*, cit., 10.

¹⁸² For both quoted passages, see M.A. FINEMAN, *The Vulnerable Subject*, cit., 2.

an inherently uncertain future»¹⁸³. It compels reconsideration of how will is identified, how effects are attributed, and how responsibility is distributed where agency unfolds within adaptive technical environments. The appropriate response is neither abandonment of autonomy nor technological fatalism. It is the development of a juridical vocabulary capable of describing mediated agency without dissolving responsibility into technical opacity.

Vulnerability, viewed through this lens, is not an exceptional deviation from ideal autonomy¹⁸⁴: it is a structural dimension of juridical agency that becomes more visible under algorithmic governance. In digitally mediated sectors – data processing, consumer interaction, platform participation – subjects often cannot fully apprehend the distributive impact of their choices, even where cognitive capacity is intact¹⁸⁵. Their agency remains operative, yet its formation is infrastructurally shaped and temporally extended¹⁸⁶. To treat such conditions as either pristine freedom or classical coercion is to misdescribe them.

The structural character of contemporary vulnerability extends beyond private law. Armed conflict, terrorism, migration, climate change, epidemics and pandemics, gender-based violence, and extreme poverty have reshaped regulatory responses at domestic and transnational levels. Recent scholarship has described the

¹⁸³ F. ADDIS, *Editorial*, in *AI LAW*, 1, 2025, 2, where he continues arguing that A.I. «must not be divorced from the foundational knowledge underpinning the current evolution of legal culture».

¹⁸⁴ The fragmentation of legislative references to vulnerable subjects risks undermining the effectiveness of protection where vulnerability is structurally embedded rather than episodic (C.M. CASCIONE, N. VARDI, *Intelligenza artificiale*, cit., 38 f.).

¹⁸⁵ A paradigmatic example is data processing in digital environments; see S. THOBANI, *The 'Consent Illusion'*, cit., 7 f.

¹⁸⁶ A. DE GIULI, *Sul concetto*, cit., 4 f.

emergence of an ‘international law of emergencies’¹⁸⁷, in which vulnerability operates as a justificatory paradigm for accelerated norm-production. Yet recourse to exception cannot replace conceptual clarification within private law itself¹⁸⁸. The grammar of emergency cannot substitute the grammar of juridical will. Indeed, it has been observed that the proliferation of vulnerability-based doctrines across domestic, European, and transnational legal orders suggests the gradual emergence of an integrated protective framework – a new *ius commune* of fragility¹⁸⁹ – in which consent is no longer evaluated as an isolated moment but within a multi-layered matrix of structural constraints. This development does not dissolve private-law autonomy; it recalibrates it within a broader architecture of social and technological interdependence.

The inquiry undertaken here has remained internal to private law. Nonetheless, the questions raised by artificial intelligence extend beyond any single doctrinal domain. They concern the manner in which legal systems (now increasingly permeated by forms of ‘juridical artificial intelligence’¹⁹⁰ deployed as instruments of norm-production, regulation, information management and even adjudicatory assistance and procedural practice¹⁹¹) and,

¹⁸⁷ For a broader reconstruction, see the collective volume *Diritto internazionale delle emergenze*, a cura di S. De Vido e V. Lorubbio, Pisa, 2026, 9 ff.

¹⁸⁸ Recent scholarship has highlighted how systemic fragilities linked to war, terrorism, migration, climate change, pandemics, and gender-based violence have reshaped regulatory responses at both domestic and transnational levels. See G. RESTA, *Prefazione*, cit., XI ff., emphasizing the systemic character of contemporary vulnerability across technological, migratory, climatic, and security-related contexts.

¹⁸⁹ L. SOLIDORO, *Il volere*, cit., 38.

¹⁹⁰ J.I. SOLAR CAYÓN, *La inteligencia artificial jurídica. El impacto de la innovación tecnológica en la práctica del Derecho y el mercado de servicios jurídicos*, Cizur Menor, 2019, 220.

¹⁹¹ I refer to the common-sense reflections offered by M. STELLA, *Artificial reason e intelligenza artificiale nel diritto processuale*, in *DPCIC*, 1, 2025, 18 ff. On the use of

consequently, jurists themselves (sometimes envisioned as mere ‘human recorders of the law of the present’¹⁹²) conceptualize technique, mediation, and human agency. Western thought has long imagined instruments capable of acting with apparent autonomy. The novelty of AI lies not in that imagination, but in the scale and pervasiveness with which mediation now structures everyday juridical life.

If artificial intelligence reshapes the environment in which juridical will emerges, legal reasoning must respond with conceptual precision. It must resist both the temptation to anthropomorphize technical artefacts and the impulse to preserve inherited abstractions unchanged. Juridical agency cannot be attributed to algorithms; nor can human responsibility be dissolved into systemic complexity.

The most serious danger posed by artificial intelligence is not domination, but confusion. When resemblance is mistaken for identity, and simulation for agency, legal categories lose clarity. The enduring lesson of the legal tradition is that distinctions matter. Preserving the boundary between programmed operation and juridical personhood is not conservatism; it is a condition of analytical integrity.

artificial intelligence in predictive justice, in connection with the principle of ‘calculability’ of law and the Roman legal experience, I refer to the bibliographical framework outlined in C. DE CRISTOFARO, *Diritto romano*, cit., 187 n. 812, to which *adde* F. MAGNOLO, *Il giudice del futuro: riflessioni sull’impatto dell’IA nella giustizia nel panorama internazionale*, in *Iura & Legal Systems*, s.i. “Ubi robots”, cit., 337 ff.; B. PICIERNO, *Giustizia predittiva ed intelligenza artificiale: nuovi scenari per il giurista del futuro*, in *Futuri*, 23, 2025, 361 ff., esp. 365 f.

¹⁹² Still highly relevant, on this point, is the warning expressed by R. CARDILLI, *Lo studio del diritto romano e i fondamenti del diritto europeo*, in *Fondamenti del diritto europeo*, cit., 73.

In confronting AI, the jurist's task is neither fascination nor fear. It is lucidity¹⁹³.

ABSTRACT

This article examines the formation of juridical will (*voluntas*) under conditions of algorithmic mediation and artificial intelligence by returning to its Roman semantic and remedial foundations. In Roman legal culture, *voluntas* was not entirely conceived as a purely self-sufficient interior act, but as a relational and procedurally interpreted category – articulated, for example, through *volens*, *nolens*, and *invitus* – and responsive to pressures such as *vis* and *metus* without automatic nullification.

Against the binary model inherited from nineteenth-century Will Theory, the article argues that AI and correlated 'new forms of vulnerability' reshape the environment in which free consent is formed and occurs. Consent unfolds within informational architectures and engineered choice settings that pre-structure

¹⁹³ In this respect, see P. FEMIA, *Sei anni di cammino, sette anni di divenire. Rudolf von Jhering e la svolta nella scienza del diritto*, Bologna, 2024, 140: what appears as disorder in the past may stem from dissatisfaction with the present order, and the disordered past may ultimately help arrest that order and set thought in motion. If this trajectory traced by legal history is taken seriously, and if contemporary reflection has already exposed the risks of an uncritical extension of juridical categories to machines, then it becomes necessary to articulate the danger that Roman law might be invoked as a legitimizing paradigm for theoretical constructions lacking historical and dogmatic grounding. This does not entail withdrawing from dialogue with technology, nor fearing autonomy as such; rather, it requires recognizing the alert function of historical models as instruments for rationalizing systems marked by conflicting tendencies. Only by maintaining an ontological distinction between human and artificial agents can an authentic relation be established; not fusion, but critical coexistence between different orders of reality.

deliberation and expose structurally conditioned agency. By recovering the elasticity of Roman categories at the foundations of European legal tradition, the analysis advances a recalibrated understanding of ‘regulatory will’, capable of accounting for mediated agency without dissolving responsibility into technological opacity.

Il presente contributo indaga la formazione della volontà (*voluntas*) nei contesti di mediazione algoritmica e di intelligenza artificiale, tornando alle sue origini semantiche e rimediali. Nella cultura giuridica romana, la *voluntas* non era concepita come il frutto di una pulsione interiore del tutto autosufficiente, bensì come categoria relazionale, proceduralmente interpretata – nonché descritta, ad esempio, attraverso le figure del *volens*, *nolens* e *invitus* – e capace di reagire a pressioni quali *vis* e *metus* senza implicare una radicale neutralizzazione del conseguente atto giuridico.

In contrapposizione al modello binario ereditato dalla Willenstheorie ottocentesca, il saggio sostiene che l’intelligenza artificiale e le correlate ‘nuove forme di vulnerabilità’ non eliminano la volontà, ma ristrutturano l’ambiente entro il quale si realizza la libera formazione del consenso, che si sviluppa infatti all’interno di architetture informative e dispositivi decisionali ingegnerizzati i quali pre-strutturano la decisione, rendendo visibili forme di agency strutturalmente condizionata. Auspicando il recupero delle ‘elastiche’ categorie romane, poste alle fondamenta della tradizione giuridica europea, l’analisi propone una ricalibratura della nozione di ‘volere normativo’ (‘regulatory will’), idonea a descrivere l’agire mediato senza dissolvere la responsabilità nell’opacità tecnologica.

PAROLE CHIAVE

Vulnerability – *Voluntas* (Legal Will) – Artificial Intelligence
– Consent Formation – Consent Shaping

Vulnerabilità – *Voluntas* – Intelligenza artificiale –
Formazione del consenso – Manipolazione del consenso

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