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### Technology - Revealing or Framing the Truth? A Jurisprudential Debate

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# Technology — Revealing or Framing the Truth? A Jurisprudential Debate

Dana Neacșu\*

*“And ‘truths’ is the (philosophical) name of what interpolates itself into the continuity of ‘there is’.”<sup>1</sup>*

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1. ALAIN BADIOU, LOGICS OF WORLDS: BEING AND EVENT, 2, at 4–5 (Albert Toscano trans., Continuum Int'l Publ'g Grp. 2009)) (2006).

## INTRODUCTION

Technology is so much more than a prosthetic. But how much more? And what else is it? In the legal realm, its role is not yet clear. Such a lack of elucidation becomes problematic, especially when technology has the ability to convert assumptions into facts, and it takes on a truth-making, rather than a mere truth-revealing mission. This Article argues that it is problematic to enable technology to stand in for reflective thinking, and calls attention to the fact that evidentiary rules enable technology to decide what can be proven, *ergo* what truth is.

Technology is a fork in the road of the legal meaning making process. It may simultaneously obscure and reveal legal truth. Given this position in the process of negotiating the appearance of legal truth, this Article discusses technology from a determinist and phenomenological perspective, directing the reader's gaze to what constitutes legal truth. Then, it guides it to a brief discussion of the role of technology within the evidentiary context of DNA sample testing,<sup>2</sup> to embrace the view of "technology" as mediator of truth, closer to its Greek origins as *techné*: bringing-forth the truth, and similar to "the *poiésis* of the fine arts."<sup>3</sup>

## I. TECHNOLOGY – A PHILOSOPHICAL AND JURISPRUDENTIAL APPROACH

### A) Greek Epistemic and Ontological Roots

All Western philosophical thought lives on the basis of its Greek beginning, as a way to investigate reality through reason or reflective thinking.<sup>4</sup> Greek roots are also evident when thinking about technology linguistically and philosophically, ontologically. Etymologically, "technology" comes from the root *techné*.<sup>5</sup>

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2. See 18 U.S.C. § 3600 (requiring courts to use DNA testing in certain cases where defendants have been sentenced to imprisonment or death).

3. See Mark Blitz, *Understanding Heidegger on Technology*, 41 *NEW ATLANTIS* 63, 76 (2014).

4. BERTRAND RUSSELL, *A HISTORY OF WESTERN PHILOSOPHY* 11–15 (1945).

5. See generally DAVID ROOCHNIK, *OF ART AND WISDOM: PLATO'S UNDERSTANDING OF TECHNE* (1996). David Roochnik comprehensively analyzes the Greek word *techné*, typically translated as "art," but also as "craft," "skill," "expertise," "technical knowledge," and even "science." *Id.* Roochnik maintains that Plato spoke of both the goodness of *techné*, as well as its severe limitations and consequent need to be supplemented by "nontechnical" wisdom. *Id.*

Ontologically, *techné* made its first appearance as the earliest form of instruction offered by Greek rhetoricians. The early sophists used *techné* as synonymous to art or skill, when describing their knowledge-purveying activity.<sup>6</sup> Protagoras, an early sophist, as imagined by Plato in the dialogue with the same title,<sup>7</sup> described his instruction as *techné*.<sup>8</sup>

In the same dialogue, Plato introduces a major conceptual development of craft, art, or *techné*, as a practical skill which does not need to be mechanical. The knowledge and technique of using fire, under the umbrella of *techné*, is the beginning of humanity in its most simple and complex possibility. This is also the beginning of *techné* as a type of experience, similar to what we would call today “know-how”<sup>9</sup>:

Prometheus was at his wits' end to find a means of preservation for mankind, so he stole from Hephaestus and Athena their *technical skill* along with the use of fire—for it was impossible for anyone to acquire or make use of that *skill* without fire—and that was what he gave to man. That is how man acquired his *practical skill* . . . .<sup>10</sup>

Plato also uses *techné* in his dialogue, *Phaedrus*,<sup>11</sup> where he “suggests that the ability to adapt arguments to various types of people is central to a true art or *techné* of rhetoric.”<sup>12</sup> The speaker “must discover the kind of speech that matches each type of nature,”<sup>13</sup> to be effective and impart knowledge or, perhaps, rumors. With Plato, *techné* evolved from a skill to truth-making.

Plato's bifurcation of *techné* into the true and the sham reaches a new level of development (or confusion) with Aristotle's

6. JAMES A. HERRICK, THE HISTORY AND THEORY OF RHETORIC: AN INTRODUCTION 59 (4th ed. 2009).

7. RUSSELL, *supra* note 4, at 80–87.

8. PLATO, PROTAGORAS 14–16 (C.C.W. Taylor ed., Oxford Univ. Press 1996) (399–380 B.C.E.). For Plato instruction has a technical side, which can be professional or not. “You didn't learn any of those things in a technical way, with a view to becoming a professional yourself, but simply for their educational value, as an amateur and a gentleman should.” *Id.* at 7.

9. For example, in *Van Products Co. v. General Welding & Fabricating Co.*, the Pennsylvania Supreme Court defined “know-how” to include trade secrets. 213 A.2d 769, 777 (Pa. 1965). The “concept of ‘know-how’ is . . . a very fuzzily defined area, used primarily as a short-hand device for stating the conclusion that a process is protectible. It covers a multitude of matters, however, which in the broad sense are not protectible, e.g., an employee's general knowledge and skill.” *Id.*

10. PROTAGORAS, *supra* note 8, at 18 (emphasis added).

11. PLATO, PHAEDRUS (Benjamin Jowett trans., Mass. Inst. Tech.) (360 B.C.E.), <http://classics.mit.edu/Plato/phaedrus.html>.

12. HERRICK, *supra* note 6, at 71.

13. *Id.*

classification of art. For Aristotle, art covered the domain of productive knowledge, which creates both beautiful and useful objects.<sup>14</sup> Thus, with Aristotle, *techné* becomes a model of knowledge.<sup>15</sup> Aristotle's *Rhetoric* is considered an example of a complete *techné*, or art of rhetoric.<sup>16</sup> Moreover, Aristotle links *techné* with knowledge production (*epistémé*) in Book VI of the *Nicomachean Ethics*,<sup>17</sup> finding that knowledge needs *techné* to be imparted: "Again, every science is thought to be capable of being taught, and its object of being learned."<sup>18</sup>

Nevertheless, they are different activities. From skill, through know-how and knowledge production, *techné* begins its ascent into the mechanical, or *instrumentum*. According to the Oxford English Dictionary, *instrumentum* is "an object, device, or apparatus designed or used for a particular purpose or task."<sup>19</sup> The following sections discuss technology framing and negotiating knowledge, producing legal truth, and the societal challenges associated with each of these roles.

### B) *A Determinist View of Technology as a Human Extension*

Ontologically, combining Plato's view of *techné*—as both skill and knowledge, such as writing, which records knowledge and creates it in the process<sup>20</sup>—with Aristotle's, technology ends up as a hydra with multiple heads. Technology, with its roots in *techné* is an instrument of knowledge, its medium. Sometimes, like an understudy, *techné* can stand in for thinking because it records it. This

14. See Christopher Shields, *Artistotle*, STAN. ENCYCLOPEDIA PHIL., <https://plato.stanford.edu/entries/aristotle/> (last updated Aug. 25, 2020) (providing background information on Aristotle's *Rhetoric*); see also HERRICK, *supra* note 6, at 79 ("[R]hetoric and dialectic . . . represent two complimentary arts of reasoning to probable conclusions . . .").

15. See JANET M. ATWILL, *RHETORIC RECLAIMED: ARISTOTLE AND THE LIBERAL ARTS TRADITION* 162–63 (1998).

16. See SHARON CROWLEY & DEBRA HAWHEE, *ANCIENT RHETORICS FOR CONTEMPORARY STUDENTS* 89–90 (5th ed. 2012). Isocrates, Aristotle's contemporary, also referred to his instruction as a logon techne, or art of discourse. *Id.* at 21. See also HERRICK, *supra* note 6, at 46–49.

17. See ARISTOTLE, *NICOMACHEAN ETHICS* bk. IV (W.D. Ross, trans., Mass. Inst. Tech.) (350 B.C.), <http://classics.mit.edu/Aristotle/nicomachaen.6.vi.html>; see also ERIC SCHATZBERG, *TECHNOLOGY: CRITICAL HISTORY OF A CONCEPT* 20 (2018).

18. See ARISTOTLE, *NICOMACHEAN ETHICS* bk. IV (W.D. Ross, trans., Mass. Inst. Tech.) (350 B.C.), <http://classics.mit.edu/Aristotle/nicomachaen.6.vi.html>.

19. *Instrumentum*, OXFORD ENGLISH DICTIONARY (3d ed. 2017). This entry has been updated (OED Third Edition, March 2017; most recently modified version published online December 2021).

20. [Socrates:] [W]ho should leave in writing or receive in writing any art under the idea that the written word would be intelligible or certain; or who deemed that writing was at all better than knowledge and recollection of the same matters?  
PHAEDRUS, *supra* note 11.

is why the philosophical roots of both the determinist approach to technology as an infallible recording instrument, and those of the phenomenological view of technology as intermediating experiential thinking spring from its Greek, *techné*, roots.

Nevertheless, as argued in this Article, in the legal realm, it appears that the determinist view of technology has influenced its legal use to a larger degree. A welcome extension of human capabilities and never a hindrance, technology has become a welcome prosthetic in the service of law, of the factfinder.<sup>21</sup> Results that otherwise would not have been imaginable, not only are now achievable but are unquestionably accepted, just because they are technology-induced.

Scanning devices, for example, opened the door to law enforcement officers to gather information unreachable to them because of location. Thirty years ago, using an Agema Thermovision 210 thermal imager, from the passenger seat of a passing vehicle, special agents thermally scanned Danny Kyllo's home temperature.<sup>22</sup> The temperature results obtained from the scanner were never questioned in court, partly due to this determinist approach to technology, which unquestionably views it from a positive angle.<sup>23</sup> Only the method of obtaining the temperature was questioned in court, not the reliability of the temperature itself:

Where, as here, the Government uses a device that is not in general public use, to explore details of the home that would previously have been unknowable without physical intrusion, the surveillance is a "search" and is presumptively unreasonable without a warrant.<sup>24</sup>

However, had anyone raised the issue of the role of technology as a legal truth producer, it might have opened the door to a richer

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21. See discussion *infra* Part II.

22. Sean D. Thueson, *Fourth Amendment Search—Fuzzy Shades of Gray: The New "Bright-Line" Rule in Determining When the Use of Technology Constitutes a Search*, 2 WYO. L. REV. 169, 169–70 (2002) (citations omitted). In the *Kyllo* case, the defendant was suspected of growing marijuana in his home. Detectives used a thermal imager to scan his home from a police vehicle while parked on a public street. Thermal imagers passively record infrared information to indicate relative temperature, a phenomenon which cannot be readily observed without the aid of such a device. *Id.* (citations omitted); see also *Kyllo v. United States*, 533 U.S. 27, 29–31 (2001). Writing for the majority, Justice Scalia invalidated the legal value of the truth finding result, as obtained against constitutional protections against unwarranted search and seizure. *Id.* at 40.

23. See *Kyllo*, 533 U.S. at 29–31.

24. *Id.* at 40.

discussion about what constitutes legal truth.<sup>25</sup> Perhaps the process of marijuana decriminalization would have started in earnest thirty years ago,<sup>26</sup> if technology was not regarded monolithically as a factfinder prosthetic, but as a tool to negotiate social meaning: what was the social meaning of high temperature coming from the garage of the owner of a Floridian triplex? Is it criminal? Does it have to be criminal? Are there any other possible explanations?

This positive view of technology as a welcome prosthetic impacts both its use and how it influences different practices and settings. This conceptualization of technology creates a dogmatic trust in accepting its results without any questions. Technologically-produced results are taken for granted, as positive and truth enabling in any set of circumstances any time technology is used, at the expense of any reflexive thinking about what exactly technology is, what is produced or used, and to what consequences.

Without reflection and introspection, it is often forgotten that all evidence, direct or circumstantial, is equally problematic.<sup>27</sup> Ironically, evidence produced by technological advancements receives less introspective evaluation, though it is often circumstantial.<sup>28</sup> Direct testimony from a witness to the events under investigation would never be perceived as more probative than circumstantial evidence obtained from technology. The reverse, however, has become inevitable, as technologically produced evidence holds more probative value.<sup>29</sup> Think only about a witness visiting the *Kyllos* and testifying afterward that the temperature inside felt normal to rebut evidence obtained through that new method or technology that it was much higher than normal. Uncontestably, a thermometer is more reliable telling temperature than a human experiencing it and recording: “I feel hot” or “I feel cold.” Similarly, the infrared technology is even more advanced than a thermometer to read temperatures, but neither “reading” is infallible because a mere mechanical recording of temperatures does not tell the entire story. For

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25. Or it might have even started the conversation about how one decides to transform a garage into a commercial solarium to grow marijuana plants at the risk of many years of incarceration. *See id.* at 29–30 (describing facts related to Danny Kyllo’s life).

26. *See* Paul J. Larkin, Jr., *Cannabis Capitalism*, 69 *BUFF. L. REV.* 215, 216 (2021). “The last 25 years have witnessed a revolutionary change in the status of cannabis under American law. Before 1996, state and federal law uniformly outlawed its distribution. By contrast, today 36 states allow marijuana to be sold for its potential medical use and 15 (along with the District of Columbia) also permit its recreational use.” *Id.*

27. As far as jury instructions are concerned, the law makes no distinction between direct and circumstantial evidence. *Holland v. United States*, 348 U.S. 121, 140 (1954); 26 *MOORE’S FEDERAL PRACTICE—CRIMINAL PROCEDURE* § 630.32 (2021).

28. *See, e.g., Kyllo v. United States*, 533 U.S. 27 (2001).

29. This is the case with DNA testing. *See* 18 U.S.C. § 3600(a)(3).

instance, thermometers can also be faulty, broken, or the temperature recorded does not tell the “truth.” Holding a thermometer near a burning oven might indicate that the temperature inside that dwelling is high, but without direct testimony that mere recording, while “true,” would confuse the fact finder in a case similar to *Kyllo*.

Philosophically and then scientifically, knowledge and technology have never been meant to overlap. As shown earlier in this Article, they did not overlap for Plato, nor for Aristotle. But, somehow, the instrumental view of technology evolved into dogmatic determinism. Maybe this happened because of the undemocratic roots of philosophy—reflective thinking taught to the young, well-off Athenian (male<sup>30</sup>) citizens, was not a widespread human activity, given its rarefied circles. By association, technology, especially as skills intermediating knowledge, slipped rather easily into the role of a welcome replacement to knowledge produced through reflective thinking. Given this expedient transition, technology has benefited from a determinist, unquestionably positive view. But expedience comes with a high societal price: a less knowledgeable, inquisitive, democratic society. Knowledge relies on technology as a modality of engaging the thinking process, guiding and finalizing it, as shown below. Technology predisposes knowledge building. Especially in law, where truth is not metaphysical, a matter of how things are,<sup>31</sup> but how they are shown and perceived. When technology determines appearance, it also determines judicial outcomes. A more nuanced role of technology might deepen our democratic principles of an open society.

### C) *A Phenomenological View of Technology as Historical and Experiential*

Phenomenology can be described as the study of a phenomenon, or appearance.<sup>32</sup> It does not mean that phenomenology deals with “mere appearance as opposed to reality, with a mental image instead of persistent thing.”<sup>33</sup> A very succinct definition of

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30. This Article cannot comment on more than the gender of Athenians. They were Europeans, yes, but commenting on the whiteness of Athenians, for instance, would be anachronistic because Athenians did not recognize themselves as white and did not base their democracy on whiteness—maleness and property ownership were the only requirements for public service in Athens, but not whiteness.

31. *But see* Jonathan Jenkins Ichikawa & Matthias Steup, *The Analysis of Knowledge*, STAN. ENCYCLOPEDIA PHIL., <https://plato.stanford.edu/entries/knowledge-analysis/> (last updated Mar. 7, 2017) (suggesting that real truth *is*, in fact, a matter of how things are, while this Article posits that legal truth is the opposite).

32. CHAD ENGELLAND, PHENOMENOLOGY 2 (2020).

33. *Id.* (emphasis in original).



phenomenology as used here is the study of experience, as it unfolds, which allows participants to sort out both *mere* appearances from true appearance of things, and legal truth from *mere* truth.

Unlike determinism whose view of technology places it on a pedestal, phenomenology encourages a relational approach to meaning-making.<sup>34</sup> Emphasizing the experiential interaction between humans, technology, and the world,<sup>35</sup> phenomenology would correct the intimidating view of reflective thinking and thus the wrongful embrace of technology. Through phenomenology, technology opens the ways to experience the world, which inevitably produces reflection upon that experience, which subsequently is incorporated in meaning-making.

Law relishes appearances (legal appearances<sup>36</sup>) as much as reality. Legal truth is a construct, evidentiarily established, and incorporating technological results. A determinist approach to technology reduces the factfinder's role because it minimizes the role of reflective, investigative thinking. To the contrary, a phenomenological view of technology exposes legal meaning as connected not to the essence of things, but to human behavior. It exposes how technology interposes a layer of appearance, which might be exactly what the factfinder needs, but understanding the difference keeps the process open to improvements, which is inevitable.

The foremost phenomenological thinkers are Edmund Husserl and Martin Heidegger.<sup>37</sup> Their work is briefly discussed here to the

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34. See generally DANA NEACȘU, *THE BOURGEOIS CHARM OF KARL MARX AND THE IDEOLOGICAL IRONY OF AMERICAN JURISPRUDENCE* (2020) (highlighting Professor Neacșu's view on meaning making).

35. There are many approaches to phenomenology, including G.W.F. HEGEL, *PHENOMENOLOGY OF SPIRIT* (A.V. Miller trans., Oxford Univ. Press 1952) (1807). Hegel's main purpose was to unfold human history as a process of human consciousness. *Id.* Heidegger and Husserl (discussed here) continue Hegel's transcendental approach to phenomenology, because both have an idealist subjectivist approach to the philosophy—as a reasonable investigation of the world—rather than a materialist approach, as I do. While a phenomenologist, because truth is revealed legally through experience, I believe, in Marx and Engels' words that “the first premise of all human existence and, therefore, of all history, the premise, namely, that men must be in a position to live in order to be able to ‘make history’.” KARL MARX & FRIEDRICH ENGELS, *THE GERMAN IDEOLOGY* 47 (Prometheus Books 1998) (1845). Furthermore, I doubt that only someone who had been exposed to music enjoys music as such and not as noise, but even more interestingly, for me, isn't all music noise, and therefore what creates music is the pleasure it produces in the listener?

36. See, e.g., Adam M. Samaha, *Regulation for the Sake of Appearance*, 125 HARV. L. REV. 1563, 1565 (2012) (appearance matters in law); see also Dana Neacșu, *Cazul Aparenței ca Normativitate Transformativă. Exemple din Dreptul American [The Case of Legal Appearance as a Transformative Norm. Examples from American Law]*, in 2 IN HONOREM FLAVIUS ANTONIU BAIAS – APARENTA ÎN DREPT 279 (Adriana Almasan et al. eds., Hamangiu ed. 2021).

37. Certainly, more knowledgeable scholars would add other philosophers, and for their views. See generally CHRISTOPHER MACANN, *FOUR PHENOMENOLOGICAL PHILOSOPHERS: HUSSERL, HEIDEGGER, SARTRE, MERLEAU-PONTY* (1993). This Article limits itself to Husserl and Heidegger because of their view of historical and experiential truth (particularly for

extent that their theories are helpful to this Article's call for a jurisprudential role of technology as intermediating legal truth to the semiotic agent, the factfinder.

### 1. *Husserl's Experiential View of Truth*<sup>38</sup>

In 1929, Edmund Husserl's phenomenological theory became experiential and constitutive.<sup>39</sup> "[I]deal formations [are] essentially products of the correlative structures of productive cognitive life[.]"<sup>40</sup> Husserl's phenomenological–philosophical project on the problem of the constitution of meaning focused on exploring the processes through which “‘things’ (ranging from directly intuitable physical bodies to abstract mathematical objects) attain their meaning for the human mind.”<sup>41</sup>

According to Irish philosopher Dermot Moran, Chair in Catholic Philosophy at Boston College, Husserl apparently had his breakthrough phenomenological revelation in 1898 when he realized that meaning was the result of a “universal a priori of correlation between experienced object and manners of givenness.”<sup>42</sup> Every object must be thus understood not solely as it is in itself, but in relation to the subjective acts which disclose it. For instance, the truth revealed through evidence is the result of multiple evidentiary correlations that made possible its realization, or using Husserl's vocabulary, its “givenness.”<sup>43</sup> Meaning, and thus truth, for Husserl, is the result of a process of consolidation, sedimentation, and

Husserl) and their anti-determinist view of technology. See LAMBERT ZUIDERVAART, TRUTH IN HUSSERL, HEIDEGGER, AND THE FRANKFURT SCHOOL: CRITICAL RETRIEVAL 19, 20 (2017).

38. ZUIDERVAART, *supra* note 37, at 20.

Husserl's explication of propositional truth makes possible “a deliberate [*schrittweise*] and critically testable [*kontrollierbare*] expansion” toward existential truth, toward truth as it is lived in true friendships and truthful conduct, for example, and not simply as it is asserted. Even though Husserl does not really account for the relationships among truth, history, and human practices (*Praxis*), “for the first time since German idealism” Husserl understands human life in its entirety as “oriented to truth,” and he regards philosophy as “the radicalization of this relation to truth [*Wahrheitsbezug*].”

*Id.*

39. This processual, meaning-making aspect is more interesting than Husserl's ahistorical view of human existence, and the transcendental, intuitive basis of thinking. For more on Husserl, see ZUIDERVAART, *supra* note 37.

40. EDMUND HUSSERL FORMAL AND TRANSCENDENTAL LOGIC 263 (Dorion Cairns trans., Springer Sci. & Bus. Media 1969) (1929).

41. Peter Woelert, *Husserl on Symbolic Technologies and Meaning-Constitution: A Critical Inquiry*, 50 *CONT'L PHIL. REV.* 289, 296–97 (2017). Husserl further developed his own phenomenological concept of intentionality. *Id.* at 297. According to it, ‘individual consciousness, in its various cognitive and affective manifestations, is and remains phenomenologically always and essentially “consciousness of something.”’ *Id.* (emphasis omitted).

42. DERMOT MORAN, HUSSERL'S CRISIS OF THE EUROPEAN SCIENCES AND TRANSCENDENTAL PHENOMENOLOGY: AN INTRODUCTION 21 (2012).

43. *Id.* at 15–21.

stratification. Moreover, the constitution of meaning relies on temporal experiences in consciousness; humans function as semiotic agents.<sup>44</sup>

Furthermore, Husserl focuses on linguistically mediated processes of consolidation of meanings which are progressively superimposed upon by “persisting linguistic acquisitions.”<sup>45</sup> Specifically, a particular emphasis is placed on the form of sedimentation that occurs with and while using the medium of writing.

Husserl observes that writing is peculiar as a linguistic medium because it allows for the “sensible embodiment” of meanings through a generalized system of signs . . . .<sup>46</sup> [S]igns are “sensibly experienceable”<sup>47</sup> by one’s visual senses, and are importantly of such a disposition that they are potentially “intersubjectively experienceable in common.”<sup>48</sup>

According to Husserl, there are several implications stemming from these features of writing. The manifest stabilization of meaning depends on the levels its carriers (i.e., the material, written signs) stimulate. This is an efficient process of stratification and consolidation of once actively constituted meanings, and accordingly, truth, viewed as a historical stratification of human practices.<sup>49</sup>

From this perspective, the written text enables the process of sedimentation of meaning, not its intelligibility (as Plato’s Socrates warned us<sup>50</sup>). And because writing relies on a system that can be experienced in common, it becomes a sensible embodiment of truth. Building on Husserl’s phenomenology, this Article suggests that truthfulness stems from open accessibility. It would correct the current situation, which ironically encourages a hierarchical approach to truth. Because the more sedimented through a particular technological mediation truth finds itself, the less open its meaning is to refutations. Incorporating Husserl’s revised phenomenology—absent its ahistorical transcendental aspect—the semiotic agent is

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44. See generally *id.*

45. Woelert, *supra* note 41, at 299 (quoting Edmund Husserl, *The Origin of Geometry, in THE CRISIS OF EUROPEAN SCIENCES AND TRANSCENDENTAL PHENOMENOLOGY* 353, 362 (David Carr ed., 1970) (1939) [hereinafter *The Origin of Geometry*]).

46. *Id.* (quoting EDMUND HUSSERL, *THE CRISIS OF EUROPEAN SCIENCES AND TRANSCENDENTAL PHENOMENOLOGY* 26 (David Carr ed., 1970) (1954)).

47. *Id.* (quoting *The Origin of Geometry, supra* note 45, at 361).

48. *Id.*

49. ZUIDERVAART, *supra* note 37, at 20.

50. See *supra* note 20 and accompanying text.

free to inquire about the value of knowledge. Technological expertise is not a prerequisite to truth-establishing. It only frames the beginning of the thought process. Only reflective, inquisitive thinking can guide the factfinder searching for truth. In the legal realm, this inquisitiveness rests with the evidentiary rules of the legal process.

## 2. *Martin Heidegger's Assertive View of Truth*<sup>51</sup>

In 1954 German philosopher Martin Heidegger developed his own phenomenological quest for the meaning of technology. He questioned the essence of technology in the essay entitled: "The Question Concerning Technology."<sup>52</sup> Heidegger essentially told his audience that "questioning builds a way [of being]."<sup>53</sup>

The way is one of thinking. All the ways of thinking, more or less perceptibly, lead through language in a manner that is extraordinary. We shall be questioning concerning *technology*, and in so doing we should like to prepare a free relationship to it. The relationship would be free if it opens our human existence to the essence of technology. When we can respond to this essence, we should be able to experience the technological within its own bounds.<sup>54</sup>

Heidegger rejected Husserl's phenomenology as the beginning of a thought.<sup>55</sup> Though, Heidegger embraces temporality of thought, and its historicity. Thus, in terms of the phenomenology of technology, Heidegger moves its role to that of intermediary, enabling "disclosedness" (*Erschlossenheit*) and "discoveredness" (*Entdecktheit*) of

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51. The conception of truth proposed by Martin Heidegger's *Being and Time* is both provocative and problematic. On the one hand, in going beyond Husserl's phenomenological account, Heidegger provides a way to reconnect technical accounts of propositional truth within logic, epistemology, and philosophy of language with the cultural practices and social institutions from which such accounts take distance. He does so by developing an ontological alternative to a pervasive "logical prejudice" in Western philosophy, an alternative to the "propositionally inflected" character of many conceptions of truth. On the other hand, Heidegger takes such a dim view of "everydayness" and public communication that attaining truth becomes the inexplicable privilege of "authentic" existence. This privileging of authentic existence ensnares his conception in the self-referential incoherence of theorizing what, according to his own theory, cannot be theorized.

LAMBERT ZUIDERVAART, TRUTH IN HUSSERL, HEIDEGGER, AND THE FRANKFURT SCHOOL: CRITICAL RETRIEVAL 47 (2017).

52. MARTIN HEIDEGGER, THE QUESTION CONCERNING TECHNOLOGY AND OTHER ESSAYS (William Lovitt trans., 1977) (1954).

53. *Id.* at 3.

54. *Id.* at 3–4.

55. See generally *id.*

meaning.<sup>56</sup> French philosopher Bernard Stiegler discussed Heidegger's assessment of technology.<sup>57</sup> Similarly to Heidegger, Stiegler pointed out the intermediary role of technology between the contingent and the accidental.<sup>58</sup> Stiegler seems to have continued Heidegger's view of technology as the "unconceal[r]"<sup>59</sup> and revealer of the truth.<sup>60</sup> Whether it is through language or writing, technology intermediates thought<sup>61</sup> and asserts truth.

Like Aristotle, Heidegger distinguished between knowledge and technology:

*Techné* . . . . reveals whatever does not bring itself forth and does not yet lie here before us . . . . Thus what is decisive in *techné* does not at all lie in making and manipulating nor in the using of means, but rather in the . . . revealing. It is as revealing, and not as manufacturing, that *techné* is a bringing-forth . . . . Technology is a mode of revealing. Technology comes to presence . . . in the realm where revealing and unconcealments take place, where *alétheia*, truth, happens.<sup>62</sup>

Heidegger seems to promote the view about technology as enabling a way of thinking, "a mode of revealing."<sup>63</sup> Professor Paul Callister believes that, for Heidegger, technology enabled a non-reflective way of thinking.<sup>64</sup> I think, for Heidegger, technology enabled all thinking—reflective and computational—technology could reveal and conceal the truth. Heidegger noted that in light of the undeniable advances in science and technology, the possibility of abandoning reflective thinking in the name of computational technology was moving from a mere possibility enabled by technology to reality. But the result is not inevitable, because the "essence of technology is by no means anything technological"<sup>65</sup> *It is* in fact thinking. The essence of technology is the reflective thinking it

56. ZUIDERVAART, *supra* note 37, at 48 (meaning can be both discerned and understood).

57. See generally ROSS ABBINNETT, *THE THOUGHT OF BERNARD STIEGLER: CAPITALISM, TECHNOLOGY AND THE POLITICS OF SPIRIT* (2018).

58. *Id.* at 2–3.

59. MARK WRATHALL, *HEIDEGGER AND UNCONCEALMENT: TRUTH, LANGUAGE, AND HISTORY* 30 (2011).

60. Bernard Stiegler, *Philosophy and Technics*, in *PHILOSOPHISING BY ACCIDENT: INTERVIEWS WITH ELIE DURING*, 29, 42 (2017).

61. HEIDEGGER, *supra*, note 52.

62. *Id.* at 13 (emphasis in original).

63. *Id.* at xxv.

64. See Paul D. Callister, *Law and Heidegger's Question Concerning Technology: Prolegomenon to Future Law Librarianship*, 99 L. LIBR. J. 285, 285 (2007).

65. HEIDEGGER, *supra* note 52, at 4.

engenders (not endangers!) and then, asserts. In the legal realm, it cannot happen automatically, it requires us to abandon the determinist view of technology.<sup>66</sup>

### 3. *A Jurisprudential Phenomenological View of Technology as Actuating Possibility*

This Article proposes a phenomenological view of technology as potentially revealing the truth. It incorporates both Husserl and Heidegger's experiential approach. Technology sets up the beginning of a thought, mediating its possibility into actuality, asserting its disclosedness.

For instance, consider the example of writing. A pen and paper induce a type of reflectiveness, even before the process of thinking starts. Given that it is harder to correct what is on the paper than what is simply enunciated, one is perhaps more careful to engage in the written text. Similarly, using a word processor sets up a particular cut-and-paste liberation which induces a particular thought-creation. Moreover, dictating software sets up an even more relaxed way of thinking. None of them can guarantee the quality of the written text. Without more, there is no certainty of knowledge, only its possibility, only the means to assert its actuation.

Technology is an intermediary prosthetic device of unlimited imaginative power. It threatens to replace decision-making reflective processes with automated, computing thinking, because of its versatility. Technology is behind both calculative and reflective thinking: it conditions both. Technology is one of the most inventive vessels of truth whose meaning and legal role has not yet been established.

The signs of confusion about the role of technology appeared from its Greek origins. As Plato reminds us, Socrates complained about writing, because immortalizing events was also a way of creating them.<sup>67</sup> Through Socrates, Plato worried that humans write, like God, to create. But unlike God, they also wrote to easily forget. Forget what? That creation is hard? Perhaps, because recording thoughts reproduces them. So, could it thus be that memorializing frees us from the burden of inquiring about any other version of the truth? Marshal McLuhan attempted to solve the problem with technology by deciding in favor of determinism: the medium was

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66. It is beyond the scope of this Article to investigate the attraction determinism and computational thinking has over human nature.

67. PHAEDRUS, *supra* note 11.

the message.<sup>68</sup> But the challenge remains not to reduce technology from potentiality to some frozen determinism but to embrace its complexity while being aware of our interpretive limitations as semiotic agents. Technology can both reveal and obscure the truth, if abandoned to technicality. Legally, such uniformity of application, as writing or any recording device enables, would close all democratic avenues toward change. Technology advances through reflective thinking, which often has computational components. Its legal applications are equally dual-natured.

## II. TECHNOLOGY AND LEGAL TRUTH-MAKING

Legally, evidentiary rules tell us that truth is what can be proven. Rules of Evidence (“the Rules”) have embraced the so-called “modern technologies” which are expected to avoid deception. The mere fact that we can talk about avoiding deception<sup>69</sup> is itself deterministic and deceptive. But the Rules also reflect something essential in their imperfection: they are not meant to solve anything alone. As the late Eastern District of New York Senior Judge Jack Weinstein said:

The problems of expert witnesses are subtle and difficult. They do not respond readily to simple solutions. I have only two related points to make. First, we should not be quick to abandon the principle of easy admissibility of expert and other testimony embodied in the Federal Rules of Evidence. The Rules were designed to depend primarily upon lawyer-adversaries and sensible triers of fact to evaluate conflicts.<sup>70</sup>

Technology is not meant to legally solve anything without the trier of fact. Technology is more and more incorporated in the legal realm because all facets of human life are more and more technology-driven. But that is the opposite of ready-made technical solutions. For technology to exist, reflective thinking is a prerequisite both at the beginning and end process. Simplistic substitutes cannot but produce simplistic solutions.

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68. See generally MARSHALL McLuhan, *UNDERSTANDING MEDIA: THE EXTENSIONS OF MAN* 7–21 (1964).

69. MCCORMICK ON EVIDENCE § 206.2 (8th ed. 2020).

70. Jack B. Weinstein, *Rule 702 of the Federal Rules of Evidence Is Sound; It Should Not Be Amended*, 138 F.R.D. 631, 631 (1991).

### A. *Technology and Evidentiary Truth*

Under Rule 702 of the Federal Rules of Evidence, a trial judge must ensure that any scientific testimony or evidence admitted is not only relevant but reliable.<sup>71</sup> The Federal Rules of Evidence also clarify the meaning of the term “scientific.”<sup>72</sup> Moreover, Rule 702 also states that scientific testimony is appropriate when the judge determines that the trier of fact, the truth-finder, would benefit from an intermediary, because the matter requires specialized knowledge.<sup>73</sup> The term “knowledge” within the meaning of Rule 702 connotes more than subjective belief or unsupported speculation. In other words, technology is needed only as an intermediary to guide the meaning-making process of the trier of fact. This is not a rule about technology as truth-maker but as truth-enabler. Specialized knowledge is welcome if it mediates understanding for the factfinder.

Historically, federal trial courts’ analyses and determinations about the admissibility of scientific evidence were straightforward and simple. For most of the twentieth century, from 1923<sup>74</sup> until 1993,<sup>75</sup> the admissibility standard for scientific expert evidence at trial was the so-called *Frye test*. This test obtained its name from *Frye v. United States*.<sup>76</sup> The issue in *Frye* was whether truth could be viewed as spontaneous, coming without conscious effort, and thus, reflected in blood pressure.<sup>77</sup> The technique used to support that theory was the systolic blood pressure test. The technique was rejected (and therefore the admissibility test formulated), because the Court found that the proposed systolic technique *had not been generally accepted* in the relevant scientific fields.<sup>78</sup> The implication of that requirement for general acceptance in the relevant field was crucial because technology was viewed in a determinist manner, being applied and used uniformly in every situation. Consequently, the truthful value of the knowledge was conferred by the uniform manner of obtaining that knowledge, although its result could have been unintelligible to the factfinder.

But, as Judge Weinstein noted, technology is not the determinist savior as its proponents would like it to be. Its results are

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71. *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 589 (1993); see FED. R. EVID. 702(d).

72. See FED. R. EVID. 702(a)–(c).

73. FED. R. EVID. 702(a).

74. *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).

75. *Daubert*, 509 U.S. at 585.

76. *Frye*, 293 F. at 1013.

77. *Id.* at 1014.

78. *Id.*



intimidating because they come from scientific experts and are difficult to evaluate by those without scientific expertise. Thus, Weinstein properly asked not for “uniform applicability” of tests, etc., but for supervised application, for intermediated use:

Expert evidence can be both powerful and quite misleading because of the difficulty in evaluating it. Because of this risk . . . [t]he judge may insist, for example, on strong guarantees that tests relied on by an expert were properly conducted since a careless laboratory is a terrible hazard to justice.<sup>79</sup>

In 1993, another change occurred in the way federal courts determined legal truth. In the case *Daubert v. Merrell Dow Pharmaceuticals*,<sup>80</sup> the United States Supreme Court considered the technological role of epidemiological studies and whether those studies were adequately reliable to support expert opinion evidence under Federal Rule of Evidence 703.<sup>81</sup> Unlike in *Frye*, in *Daubert*, the judiciary did not state that the admissibility standard depended on the generally accepted technology in the field. It replaced general acceptance in the field with the trial judge’s view. The *Daubert* test allows the trial judge to determine whether a witness’s testimony is based on scientifically valid reasoning.<sup>82</sup> Accordingly, the trial judge became the ultimate arbiter of whether technology, in the form of scientific testimony, is admissible for consideration by a factfinder. When technology is admissible through the *Daubert* framework, it is admitted as a result of reflective thinking by the trial judge. This is a more nuanced view of technology, but still deterministic: if the judge accepted the scientific and technological evidence, its truth-worthiness benefited from the same aura as under the *Frye* test.

The *Daubert* Court represented welcome progress in fracturing the monolithic deterministic view of technology. The Court noted the critical concern under Rule 702 regarding whether or not a theory or method constituted the power bestowed on “scientific knowledge”<sup>83</sup> with “evidentiary reliability”<sup>84</sup> or “trustworthiness.”<sup>85</sup> Since 1993, trustworthiness has not depended on the “general

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79. Weinstein, *supra* note 70, at 632.

80. *Daubert*, 509 U.S. at 579.

81. *Id.* at 584.

82. *Id.* at 592–93.

83. 509 U.S. at 590.

84. *Id.*

85. *Id.*

acceptance”<sup>86</sup> by the scientific community, a rarefied, inaccessible community, but on its relevance to the case, as explained to all by the trial judge.

This is welcome progress because technology, when used in the legal realm, has democratic ramifications. Whether openness and understanding are valued socially, or whether reflective thinking is abandoned in favor of a few technocrats matters. If a democratic rule of law requires a uniform applicability of all legal norms in force at that moment, it has no such requirement of how technology is used. Law applies uniformly to induce trust. A blind, mechanical approach to technology would produce, ironically, the opposite effect, especially if what is deemed scientific is not easily understandable by the factfinder. Technology is and needs to remain an artifact that mediates reflective thinking, which requires time and patience. This is the opposite of what laypeople and fact-finders are told and encouraged to expect from technology. Or, in the words of French poststructuralist Paul Virilio, what is expected from technology—immediate uniform results—is mere deception.<sup>87</sup> That expectation itself is mere pretense and deceit: so much thinking goes into every technical innovation, that to expect to master and understand its results without effort, is pure deception. Technology has the potential to engage humans both in truth-inducing or knowledge-provoking experiences, as well as in deceiving expediency. It is up to us how we want to use it.

### *B. Legal Truth. A Phenomenological Perspective*

To the extent that meaning is as much recognition as it is experience and sense-giving or meaning bestowal, philosophers have been trapped in various schools of transcendentalism or ahistoricism.<sup>88</sup> In law, truth relies on evidence, which is already a phenomenological shortcut, a reduction of meaning. If technology were to replace the human element, its subjectivity, and the need for stratification, then what remains is an empty shell, a procedural requirement.

Husserl recognized this potential problem with technology, as technique enabling decontextualization. He was aware of schematic descriptions of a wide range of processes, in rigid abstraction from concrete referents and situations. For Husserl, such

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86. *Id.* at 589–90 (quoting FED. R. EVID. 702).

87. PAUL VIRILIO, *WAR AND CINEMA: THE LOGISTICS OF PERCEPTION* (Patrick Camiller, trans., Verso 1989) (1984).

88. See discussion *supra* Part I, Section 3(i) (discussing Husserl).

formalization would change how one operated rationally thinking, producing “‘something in general’ which can be constructed in pure thought and in empty, formal generality.”

Husserl’s concept of technization designates a transformation of the practice of rational thinking as a result of which this thinking, along with the increasing reliance on formal methods, becomes more efficient and effortless. This, Husserl notes, is to the point that rational thought itself “becomes a sort of *technique*,” namely, a “calculating technique.” It is however precisely this cognitively alleviating process of technization that entails for Husserl that thought—technized rational thought—tends to become somewhat mechanical and forgetful, and thus ultimately . . . more “thoughtless.”<sup>89</sup>

Legally, this layered approach to meaning intermediated by the artifact, writing, is very suggestive of the role of technology proposed here. Jurisprudentially speaking, writing is the embodiment of truth regarding contracts, for instance. If there is no written contract, then there is no contract. This is perhaps the most dramatic, and the most expedient example of reality-making technology.

As noted in *Williston on Contracts*,<sup>90</sup> originally, at common law, a contract in writing had the same evidentiary value as a parole contract: they both needed to be proven truthful in case of doubt. But then, with the advent of capitalism—and consequently the need for expediency—the well-known statute of frauds was enacted by the English Parliament in the second half of the seventeenth century. Under the guise that it provided defense against fraudulent testimony, the statute of frauds provided that a party producing a writing evidencing a contract was presumed to have proven the truth. There was no inquiry into the ability of the opposing party to know how to read or write. Moreover, as summarized in a 1991 Connecticut case—*C.R. Klewin, Inc. v. Flagship Properties, Inc.*<sup>91</sup>—the Statute of Frauds as an evidentiary provision denied jurors the ability to participate as factfinders in the process of truth-finding. Indeed, it seems that jurors tended to avoid the evidence in favor of their own knowledge, which again, explains the attraction of the

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89. See Woelert, *supra* note 41, at 301 (emphasis in original).

90. 9 WILLISTON ON CONTRACTS § 21:1, Purpose and History of the Statute of Frauds (4th ed. 2021).

91. *C.R. Klewin, Inc. v. Flagship Props., Inc.*, 600 A.2d 772, 775 (Conn. 1991).

determinist view of technology—as producing irrefutable truth, the parties’ contractual will, in this instance.

The Connecticut statute of frauds has its origins in a 1677 English statute entitled “An Act for the Prevention of Fraud and Perjuries.” The statute appears to have been enacted in response to developments in the common law [when] perjury and the subornation of perjury became a widespread and serious problem. Furthermore, *because juries at that time decided cases on their own personal knowledge of the facts*, rather than on the evidence introduced at trial, a requirement, in specified transactions, of “some memorandum or note . . . *in writing, and signed by the party to be charged*” placed a limitation on the *uncontrolled discretion of the jury*.<sup>92</sup>

It is hard to refute the evidentiary value of such a rule, in light of the problems it faced and solved. By the same token, it is difficult not to worry about its future legal impact, especially if by chance, technology is given another truth-making role hard to contest.

Today, when artificial intelligence (“AI”) defines the parameters of scientific thinking, calculative-technological thinking produces symbolism, measurable and calculative signs to decipher the mystery of life. It is taxing to engage in reflective thinking challenging such advanced products. Heidegger was among the first to deplore the potential loss of meditative contemplative thinking that the advent of technology encouraged. Heidegger’s worry came when AI had not made its presence center stage.<sup>93</sup> “Each human transforms into a cyborg-type being that becomes one with a digital smart

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92. *Id.* (emphasis added) (citations omitted) (“Although the British Parliament repealed most provisions of the statute, including the one-year provision, in 1954 . . . the statute nonetheless remains the law virtually everywhere in the United States.”).

93. Rauno Huttunen & Leena Kakkori, *Heidegger’s Critique of the Technology and the Educational Ecological Imperative*, EDUC. PHIL. & THEORY, Mar. 2021, at 4, <https://doi.org/10.1080/00131857.2021.1903436>. Huttunen and Kakkori explained:

When Heidegger writes about technology, modern technology, and machine technology, he mainly refers to the technology of the Second Industrial Revolution. When he addresses the dangers of nuclear power and gene technology, these phenomena belong to the era that we could call the Third Industrial Revolution. The Third Industrial Revolution began in the late 20th century, with the rise of microelectronics and microcomputers. It continues nowadays with globalisation, robotisation, digitalisation, the Internet, gene technology, hybrid warfare, immaterialisation of the production process, nanotechnology, quantum computers, and cognitive capitalism. Following the lead of Klaus Schwab, we could call this newly emerging era the Fourth Industrial Revolution. Within the Fourth Industrial Revolution, human behaviour integrates with digital equipment and becomes part of the global Internet of things.

*Id.* (citations omitted).

device. These devices are already integrated with human thinking and action.”<sup>94</sup>

But, as Judge Weinstein noted, reflective thinking is the only way to ensure that legal truth is more than the evidence meeting the standards of various evidentiary rules. It reflects the facts in dispute in each particular case. This is a very hard precept to follow, especially when technology has created an expectation of expedience and an uncritical subordination to its results.

### *C. DNA Sample Collection as Irrefutable Evidence Fingerprinting for the 21<sup>st</sup> Century*

Technological determinism has been and remains a problem in the legal realm. More than a transcendental desire to find meaning, it reflects a transcendental desire to believe in easy ways out. Reality does not necessarily support this trust, and Daubert has chipped away at technological determinism with clear empowerment of the trial judge. Still, technological determinism continues its sway in many areas of the legal realm to nefarious democratic consequences for the rule of law and the trust it demands in its reign. Ironically, too often, the more recent the technology, and thus the less tested, the more trusted its application is, as shown here.

For instance, twenty-five years ago, DNA technology was the most advanced technology helping to exonerate individuals wrongfully convicted of rape and homicide to prove their innocence.<sup>95</sup> Janet Reno, then the United States Attorney General, requested that the National Institute of Justice establish a national commission to examine the future of DNA evidence.<sup>96</sup> Perhaps excited by its potential, the Commission examined issues that reached beyond the Attorney General’s original questions about its exonerator role. It examined postconviction DNA application to ensure a more effective integration of the technology into the criminal justice system.<sup>97</sup>

In the following years, the criminal justice system quickly created vast DNA sample collections. At a news conference, the Attorney General for the George W. Bush administration, John Ashcroft, said:

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94. *Id.*

95. See generally EDWARD CONNORS ET AL., CONVICTED BY JURIES, EXONERATED BY SCIENCE: CASE STUDIES IN THE USE OF DNA EVIDENCE TO ESTABLISH INNOCENCE AFTER TRIAL (U.S. Dep’t Just. ed., 1996).

96. *Id.* at iii–iv.

97. Christopher H. Asplen, Integrating DNA Technology into the Criminal Justice System, 83 JUDICATURE 144, 144–46 (1999).

The murder conviction of Alvin Braziel is a powerful example of how one technology—forensic DNA analysis—has revolutionized law enforcement. Over the short span of 10 years, DNA technology has proven itself to be the truth machine of law enforcement, ensuring justice by identifying the guilty and exonerating the innocent.

With the strong support of Congress, the Department of Justice has served as a leader in the national effort to maximize the benefits of DNA evidence, and the past five years have seen a national explosion in forensic DNA collection. All fifty states and the federal government now have laws on the books that require DNA to be collected from convicted offenders for the purpose of criminal DNA databasing.<sup>98</sup>

The reason for the trend toward broad DNA sample collection, however, was surprisingly not based in science. As Ashcroft boasted, the reason was simply “experience”.<sup>99</sup> But not experience in terms of time lapsed innovating and applying science and technology. It was the experience of wishful thinking (ignorantly) transformed in proof, as the future tense Ashcroft used denotes:

[A]nd the reason is simple: *Experience* has taught law enforcement that the more offenders that are included in the database, the more crimes *will be solved*.<sup>100</sup>

Technological determinism won the day, though the hawkish, “pro-war,” and “law and order” political ideology of the Bush Administration might have helped this trend, too.<sup>101</sup> The result was expansive legislative efforts that violated individual human rights. Indeed, the Combined DNA Index System, 34 U.S.C. § 40702, and numerous state statutes enabled the collection of DNA samples. It built on collections methods already approved by the U.S. Supreme Court as minimal bodily invasion, and thus constitutional.<sup>102</sup> However, the human rights violation was two-fold, the invasion to collect the sample and then its unlimited preservation. Taking a blood

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98. John Ashcroft, U.S. Att’y Gen., News Conference, DNA Initiative (Mar. 4, 2002) (transcript available at <http://www.justice.gov/archive/ag/speeches/2002/030402newsconferncednainitiative.htm> (last visited Nov. 1, 2021)).

99. *Id.*

100. Ashcroft, *supra* note 98 (emphasis added).

101. See generally Andrew Newman, *Arms Control, Proliferation and Terrorism: The Bush Administration’s Post-September 11 Security Strategy*, J. STRATEGIC STUD. 59 (2004) (highlighting the ideology that propped the Bush Presidency and its hawkish administration).

102. *Skinner v. Ry. Lab. Execs’ Ass’n*, 489 U.S. 602, 625 (1989).

sample was viewed as minimal and its potential benefit immense: exculpating the wrongly convicted.<sup>103</sup>

Again, the results proved the opposite of what common sense thinking would expect from novel uses of advanced technology. The adoption of so many invasive statutes for unproven results, is democratically troublesome. The judiciary and legislative bodies chose to endorse computational thinking at the expense of reflective thinking. But, reflective thinking needs to support the automatic decisions about the data collected indefinitely, even when that collection happens only in a relatively non-invasive manner. Violating privacy for wishful thinking seems unwarranted in a liberal democracy.

Even worse, taking DNA from a lot of arrestees slows the testing in active criminal investigations. After all, *12 million* or more people are arrested *each year*. (According to one study, by age 23, nearly one-third of Americans have been arrested for an offense, not including minor traffic violations.) Backlogs created by arrestee DNA sampling means that rape kits and samples from convicted offenders sit in storage or go untested. This hurts innocent suspects . . . because of a delay in testing evidence that later cleared [them].<sup>104</sup>

Mindless use of technology does not exculpate anyone. This use of technology has the disadvantage of minimizing the role of technology as instrumental in reflective thinking, which is the mark of truth-finding. There is no societal value in increasing the role of

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103. The constitutional discussion about the legality of taking and persevering blood and DNA samples continues. For a concise explanation, see, e.g., Theodore F. Claypoole, *Why We Are Losing Our DNA Privacy Rights and What Legislators Can Do to Save Them*, NAT'L L. REV. (Jan. 30, 2020), <https://www.natlawreview.com/article/why-we-are-losing-our-dna-privacy-rights-and-what-legislators-can-do-to-save-them>.

104. Brandon L. Garrett & Erin Murphy, *Supreme Court 2013: Why Collecting DNA from People Who are Arrested Won't Help Solve More Crimes*, SLATE, [http://www.slate.com/articles/news\\_and\\_politics/jurisprudence/2013/02/dna\\_collection\\_at\\_the\\_supreme\\_court\\_maryland\\_v\\_king.html](http://www.slate.com/articles/news_and_politics/jurisprudence/2013/02/dna_collection_at_the_supreme_court_maryland_v_king.html) (last visited Nov. 1, 2021) (emphasis in original).

Research shows that bigger is only better if DNA databases grow in the right way: by entering more samples from crime scenes, not samples from arrestees. DNA databases already include 10 million-plus known offender profiles. But a database with every offender in the nation cannot solve a crime if no physical evidence was collected or tested. And police collect far too few such samples. [As of 2013, nationwide,] [p]olice do routinely collect physical evidence in cases of homicide and in most cases of rape. But evidence is not collected from eight out of 10 crime scenes for other serious offenses, like burglary, robbery, and aggravated assault. Forget what you see on the proliferation of CSI spinoffs. Many jurisdictions do not even have dedicated and trained crime scene investigators.

*Id.*; WAYNE R. LAFAVE, 3 SEARCH & SEIZURE § 5.4(c) (6th ed. 2020).

technology as truth-making, by eliminating any other path to truth-finding. Technology as truth-making rather than truth-finding is dangerous in a democratic society. Abandoning doubt, technology reigns in violation of fundamental individual rights. For instance, given the legislator's analogy to fingerprinting, once DNA is identified, no individual can reclaim their undeniable identity. In 2005, United States Senator Jon Kyl endorsed the DNA Fingerprint Act, noting that no such expungement procedure exists for an arrestee's fingerprints—an arrestee who is ultimately not convicted has no way to affirmatively seek the destruction of her fingerprint records.<sup>105</sup> That procedure is equally missing in the case of DNA identification.

A decade after its implementation, in 2009, the National Research Council ("NRC") of the National Academies of Science released its report, *Strengthening Forensic Science in the United States: A Path Forward*.<sup>106</sup> That report included harsh critiques of many traditional forensic science techniques, including microscopic hair analysis, forensic odontology, and questioned document examination.<sup>107</sup>

In evaluating the accuracy of a forensic analysis, it is crucial to clarify the type of question the analysis is called on to address . . . . For example, *microscopic hair analysis* may provide reliable evidence on some characteristics of the individual from which the specimen was taken, but it may not be able to reliably match the specimen with a specific individual.<sup>108</sup>

As in the case of all analyses leading to classification conclusions (e.g., diagnostic tests in medicine), the *microscopic hair analysis* process must be subjected to performance and validation studies in which appropriate error rates can be defined and estimated.<sup>109</sup>

In sharp contrast, the report found that some techniques have been thoroughly validated. For example, the report singled out nuclear DNA testing as the one forensic identification technique

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105. See generally 151 CONG. REC. S13,756 (daily ed. Dec. 16, 2005) (statement of Sen. Kyl); see also Anselm Franke & Eyal Weizman, FORENSIS: THE ARCHITECTURE OF PUBLIC TRUTH (Forensics Architecture ed., Sternberg Press 2014); Garrett & Murphy, *supra* note 104.

106. See NAT'L RSCH. COUNCIL OF THE NAT'L ACADS., STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD (2009).

107. *Id.* at 127, 160, 166.

108. *Id.* at 8 (emphasis added).

109. *Id.* at 118 (emphasis added).



demonstrated to consistently achieve accurate results with a high degree of confidence.<sup>110</sup>

Perhaps the most appropriate words of warning are those of the late Supreme Court Justice Antonin Scalia, in his dissent in *Maryland v. King*.<sup>111</sup> He raised concerns about the use of DNA samples to create a ready-to-use database. Every time a crime occurs, society may choose to solve it relying on technology rather than on other evidentiary means of proving the facts. But then, society might also choose to prevent crime through public and private technological surveillance, at the expense of its citizens' privacy. Is it worth it? "The Court's assertion that DNA is being taken, not to solve crimes, but to *identify* those in the State's custody, taxes the credulity of the credulous."<sup>112</sup>

Paraphrasing Justice Scalia, using technology and science to avoid thinking is oppositional to the very essence of science and technology. Their progress requires reflective, time-consuming thinking. Furthermore, our democracy demands an open, transparent approach to what is considered truth in the legal realm.

#### CONCLUSION – FOR A PHENOMENOLOGICAL USE OF TECHNOLOGY IN THE LEGAL REALM

This Article argues in favor of technology as *poiésis*,<sup>113</sup> as a challenge that frames and reveals the truth, or even the appearance of truth mediated by evidentiary rules. It exposes the problems of relying on technology in its computational rather than its prosthetic, supportive role of encouraging reflection over what constitutes truth.

When technology is hailed as a mythical truth-provider, the participants to the legal process need to remember that the process by which legal facts are constructed is significantly different than the process of belief formation within an individual mind. Most notably, as James R. Steiner-Dillon noted recently, the factfinder relies on the adversarial model of adjudication, which gives substantial autonomy to the parties' counsel to control what is presented as (truth) evidence.<sup>114</sup>

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110. *Id.* at 128.

111. *Maryland v. King*, 569 U.S. 435, 466 (2013) (Scalia, J. dissenting).

112. *Id.* (emphasis in original).

113. See generally HEIDEGGER, *supra* note 52; see also Blitz, *supra* note 3, at 76 (defining *poiésis* as art, revealing beauty)

114. James R. Steiner-Dillon, *Is Truth Truth?*, 109 KY. L.J. 477, 481–82 (2020).

At the same time, the Rules of Evidence and other exclusionary rules prevent the parties from presenting certain kinds of relevant evidence to the factfinder, and sometimes prescribe the specific inferences that the factfinder may or may not draw from the information it does receive. In addition, facts determined by a court, unlike those of an individual mind, are held to an explicit, *ex ante* standard of proof—a standard that shifts to reflect policy priorities external to the epistemic task. These distinctions, and others, are generally overlooked when we speak casually of legally constructed facts as “true” or “false.”<sup>115</sup>

This Article advocates for technology to remain only a welcome device in negotiating the appearance of truth as decided by the trial judge on a case-by-case basis. In the legal realm, where truth is as much as factual as evidentiary, the myth of finding it should remain as important as other legal values of our democratic system, not the least of which is one’s human right to preserve privacy while living in a democratic society whose rules are uniformly applied to all in a manner open to a common understanding.

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115. *Id.*