Narrative Approaches to Human–Robot Interaction and the Law

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How should we understand human–robot interaction? Are robots tools mindlessly following their programming, or are they actors with agency, as Frode Pederson queries in Chapter 13? Are robots an inevitability we should just accept, or does regulation have a role to play, as Helena Whalen-Bridge considers in Chapter 14? More broadly, how do we generate concepts to understand human–robot interactions in a way that adequately incorporates knowledge from different disciplines, as Jeanne Gaakeer investigates in Chapter 15? These questions suggest that we must consider subject matter beyond substantive law and procedure if we wish to understand robots and our place in the world with them – even if the focus is law. This is the central challenge addressed in Part III, "Human–Robot Interactions and Legal Narrative."

Narrative form is ubiquitous. It helps us understand and respond to daily events,[1] and it is now incorporated into many fields of knowledge,[2] including the sciences.[3] Narrative can be simply defined as the representation of events,[4] and as such it is also present in legal cases. Narrative is in fact reflected throughout the process of dispute resolution, appearing in witness testimony,[5] judicial fact-finding,[6] and even

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[1] For the beginnings of this research, see Willam Labov & Joshua Waletzky, "Narrative Analysis" in June Helm (ed.), *Essays on the Verbal and Visual Arts* (Seattle, WA: University of Washington Press, 1967) 12.

[2] See Cristopher Nash, *Narrative in Culture: The Uses of Storytelling in the Sciences, Philosophy, and Literature* (London, UK: Routledge, 1990).

[3] See e.g. narrative-based medicine, in George Zaharias, "What Is Narrative-Based Medicine?" (2018) 64:3 *Canada Family Physician* 176.

[4] See Gerald Prince, *Dictionary of Narratology*, rev. ed. (Lincoln, NE: University of Nebraska Press; Chesham, UK: Combined Academic, 2003) at 58–61.

[5] See Line Norman Hjorth, "Underlying Narratives in Courtroom Exchanges" in Frode Helmich Pedersen, Espen Ingebrigtsen, & Werner Gephart (eds.), *Narratives in the Criminal Process* (Frankfurt am Main, Germany: Vittorio Klostermann, 2021) 139.

[6] For a variety of approaches to judicial narrative, see Simon Stern, "Narrative in the Legal Text: Judicial Opinions and Their Narratives" in Michael Hanne & Robert Weisberg

the structure of law.[7] This legal ubiquity suggests that narrative should have a place in discussions of substantive law and procedure,[8] but it is frequently missing, perhaps because, as Peter Brooks has observed, an explicit narratology for law might muffle law's majesty.[9]

If legal narrative should be included in analysis of the law generally, it certainly has a place when the law struggles to address a new issue or problem, because legal change may require the reconsideration of old narratives and the construction of new ones. Human–robot interaction is one such emerging field, as evidenced by the questions posed in Parts I and II that we never had to ask before, e.g. whether automated vehicles (AVs) should be liable for vehicular accidents, and whether robots should testify against their human drivers.

Earlier research has explored robot and artificial intelligence (AI) metaphors[10] and narratives to a degree, inside and outside the legal context. Chen Meng Lam has examined the use of AI to generate factual narratives in legal disputes in the future, and while these AI narratives would be highly evidence-based, such a system would suffer from an inability to explain precisely where and how conclusions were reached.[11] In a series of cases regarding accidents with AVs, Helena Whalen-Bridge

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(eds.), *Narrative and Metaphor in the Law* (Cambridge, UK & New York, NY: Cambridge University Press, 2018) 121; Paul W. Kahn, *Making the Case: The Art of the Judicial Opinion* (New Haven, CT: Yale University Press, 2016); Sanford Levison, "The Rhetoric of the Judicial Opinion" in Peter Brooks & Paul Gewirtz (eds.), *Law's Stories: Narrative and Rhetoric in the Law* (New Haven, CT & London, UK: Yale University Press, 1996) 187; and Pierre N. Leval, "Judicial Opinions as Literature" in Peter Brooks & Paul Gewirtz (eds.), *Law's Stories: Narrative and Rhetoric in the Law* (New Haven, CT & London, UK: Yale University Press, 1996) 206.

[7] See Maksymilian Del Mar, "Exemplarity and Narrativity in the Common Law Tradition" (2013) 25:3 *Law and Literature* 390; and Andrew Benjamin Bricker, "Is Narrative Essential to the Law? Precedent, Case Law and Judicial Emplotment" (2016) 15:2 *Law, Culture and the Humanities* 319; for Ronald Dworkin's characterization of the common law as a chain novel, see Ronald Dworkin, *Law's Empire* (Cambridge, MA: Harvard University Press, 1986) at 228–234.

[8] See e.g. Anne E. Ralph, "Narrative-Erasing Procedure" (2018) 18:2 *Nevada Law Journal* Article 11.

[9] Peter Brooks, "Narrative Transactions: Does the Law Need a Narratology?" (2006) 18:1 *Yale Journal of Law and Humanities* 1 at 28; see also Peter Brooks, *Reading for the Plot*, 1st ed. (New York, NY: A. A. Knopf, 1984) at 27–28.

[10] See Ryan Calo, "Robots as Legal Metaphors" (2016) 30:1 *Harvard Journal of Law and Technology* 209 (examining judicial use of the robot metaphor).

[11] Chen Meng Lam, "Using Artificial Intelligence in Narratives in the Criminal Process" in Frode Helmich Pedersen, Espen Ingebrigtsen, & Werner Gephart (eds.), *Narratives in the Criminal Process* (Frankfurt am Main, Germany: Vittorio Klostermann, 2021) 357.

identified a narrative of fear concerning the havoc that could be created if robots were to function independently of human control or supervision, as well as narratives concerning the superior and inferior abilities of humans and robots.[12] A narrative of human superiority would support the view that any driver must always remain attentive to the road, regardless of the functions of a driving aid, and this narrative may help explain why courts in particular cases imposed criminal liability on the driver for what were, in fact, robot malfunctions.[13] Chris Tennant and Jack Stilgoe have examined the narratives used to promote autonomous vehicles among developers, researchers, and other stakeholders, and they observed that while there is a dominant narrative of autonomy in which self-driving cars will replace error-prone humans, there was also some recognition that these vehicles are "attached and enmeshed in social and technological complexities."[14] Sabine Payr's investigation of science fiction literature and films about robots revealed a prevailing narrative of robots as unproblematic sidekicks, but even though the narratives purportedly focused on robots, the dominant theme was human identity.[15] Payr noted that there was a lack of productive narratives about emerging, more complex human–robot relationships, and Payr's study, as well as the work of Whalen-Bridge, and Tennant and Stilgoe, underscore the need for the volume's focus on human–robot interaction.

The three chapters in Part III assist to shed light on human–robot interactions. They also reflect the variety of research in narrative generally,[16] regarding both methodology and substantive focus. Examining a series of Norwegian cases regarding a trading robot, Frode Pederson's chapter considers competing narratives regarding the characterization of robots, as either exercising choice or merely following directions. Pederson demonstrates that although the narratives contain

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[12] Helena Whalen-Bridge, "Constructing the Human–Robot Relationship: Stories of Ability and Fear in Cases of Criminal Liability for Driving Aids in Automobiles" in Frode Helmich Pedersen, Espen Ingebrigtsen, & Werner Gephart (eds.), *Narratives in the Criminal Process* (Frankfurt am Main, Germany: Vittorio Klostermann, 2021) 325.

[13] See also Madeleine Clare Elish & Tim Hwang, "Praise the Machine! Punish the Human! The Contradictory History of Accountability in Automated Aviation" (2015) Intelligence and Autonomy Initiative, Working Paper #1 V2.

[14] Chris Tennant & Jack Stilgoe, "The Attachments of 'Autonomous' Vehicles" (2021) 51:6 *Social Studies of Science* 1.

[15] Sabine Payr, "In Search of a Narrative for Human–Robot Relationships" (2019) 50:3 *Cybernetics and Systems* 281.

[16] See James A. Holstein & Jaber Gubrium (eds.), *Varieties of Narrative Analysis* (Los Angeles, CA: Sage, 2012).

contradictions, the different narratives chosen by the respective courts support different interpretations of the law. Taking a more empirical approach, Helena Whalen-Bridge examines the use of narratives in public arguments regarding AVs by tracing narrative themes and conflicts in Singapore newspaper coverage. She observes that the narratives of government and commercial entities were similarly upbeat and complementary, but they differed in that commercial entities asserted the narrative that AVs were inevitable, while government entities did not. Whalen-Bridge suggests, however, that the governmental rejection of inevitability does not dictate a particular regulatory approach and is consistent with either a light-touch or stricter styles of regulation. Jeanne Gaakeer's chapter widens the focus, making the important argument that automated driving systems require a "hermeneutics of the situation." Gaakeer suggests ways in which narrative and philosophical traditions necessarily inform the required interdisciplinary framework to guide factual and legal interpretation for automated driving systems, and she highlights the dangers of approaches which fail to heed lessons from other disciplines such as law, ethics, and technology.

The importance of narrative analysis to the study of human–robot interactions is also reflected in the appearance of narrative in chapters that do not have narrative as their primary focus. Regarding legal procedure, Sara Sun Beale and Hayley Lawrence observe in Chapter 6 that an important feature of human–robot interaction is the human tendency to anthropomorphize robots, which can generate misleading impressions or create the potential for manipulation when robots are given more of a backstory or designed to evoke a more trustworthy and believable character. Bart Custers and Lonneke Stevens conclude Chapter 10 on the point that even though the use of digital evidence is set to increase in the coming years, humans still seek to understand evidence by means of stories. Regarding the substantive law, Janneke de Snaijer examines the liability of medical professionals for remote-control and independent surgical robots in Chapter 3, but not the more advanced, self-learning robots which are on the horizon. These chapters indicate that the story of human–robot interaction is many stories, a number of which remain to be told.