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Subjecthood in Cyberspace and the Uncanny Valley of International Law

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Abstract

In this article the authors build on Masahiro Mori's 1970s essay "The Uncanny Valley", psychoanalysis and critical legal pluralism, to analyse how the uncanny in international law is exposed through law's encounter with the a-human, non-human and more-than-human phenomena challenging legal subjecthood in cyberspace. Discussing autonomous decision-making, dwellers and encounters in international law's uncanny valley the article proposes that international law needs to cater to a spectrum of non-human subjectivities, entities, laws and normativities. In short, international law needs to 'get over itself' and its constant anxiety in the face of the plurality of laws and Others.

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Keywords

legal subjectivity – autonomous decision-making – artificial intelligence – Masahiro Mori – uncanny valley – cyberspace – critical legal pluralism

1 Background: Artificial Non-Human Actors and International Law

Automated agency and algorithmic decision-making permeate much of the daily lives around the globe. Domestic chores, such as paying bills, as well as larger and more sophisticated tasks, such as medical diagnostics, applications for automated vehicles, security, taxation, the judicial system, border and migration control and weapons systems, are all prone to be subjected to automated decisions or assisted by them.[1] The changes this imbues create new ways of human life, and new relations in the global legal order fundamentally challenging international law emerge. In this article we will explore the emergence of new subjectivities, automated actors, algorithmic non-human decision-making, and other 'Others' in what is known as 'cyberspace'.[2] We will see to how the encounter with these new subjectivities, actors and other 'Others' force international law and its scholarship to reconsider itself from both within and from the 'outside', facing its own 'uncanniness'.[3]

1 See, e.g., R. Bellanova, K. Irion, K. Lindkov Jacobsen, F. Ragazzi, R. Saugmann, and L. Schuman, 'Toward a Critique of Algorithmic Violence', 15 *International Political Sociology* (2021) pp. 121–150, doi:10.1093/ips/olab003; M. van Hartskamp, et al. 'Artificial Intelligence in Clinical Health Care Applications: Viewpoint', 8:2 *Interactive journal of medical research* (2019), doi:10.2196/12100; D. Van Den Meerssche, 'Virtual Borders: International Law and the Elusive Inequalities of Algorithmic Association', 33:1 *European Journal of International Law* (2022) pp. 171–204, doi:10.1093/ejil/chac007; C. Parsley, 'Automating authority: The human and automation in legal discourse on the Meaningful Human Control of Lethal Autonomous Weapons Systems' in S. Chalmers and S. Pahuja (eds.) *Routledge Handbook on International Law and the Humanities* (Routledge, Abingdon, 2021), pp. 431–445; M. Schemmer, N. Kühl and G. Satzger, 'Intelligent Decision Assistance Versus Automated Decision-Making: Enhancing Knowledge Work Through Explainable Artificial Intelligence' *HICSS* (2022), doi:10.24251/HICSS.2022.185; M. Zalnieriute, L. Bennett Moses, and G. Williams, 'The Rule of Law and Automation of Government Decision-Making' 82(3) *The Modern Law Review* (2019) pp. 425–455, doi:10.2139/ssrn.3348831.

2 J. Cohen, 'Cyberspace As/And Space', 107 *Colombia Law Review* (2007), pp. 201–256.

3 On international law and the uncanny, see: M. Aristodemou, 'A Constant Craving for Fresh Brains and a Taste for Decaffeinated Neighbours', 25:1 *European Journal of International Law* (2014a) pp. 35–58, doi:10.1093/ejil/cht080. See also: M. Aristodemou, *Law, Psychoanalysis, Society: Taking the unconscious seriously* (Routledge, Abingdon, 2014b); S. Freud, *The Uncanny* (Penguin Classics, London 2003 [*Das Unheimliche*, Imago, Bd. V., Wien, 1919]).

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The spaces, agents and encounters we refer to in this article can be seen as challenges or potentials, overlapping or integrating with what is understood as *the* international legal plane. We shall explore the meaning of international law in this new era referring to the concept of critical legal pluralism – a concept we will return to and expand on below.[4]

International governance mechanisms are often described as the transmission belt of liberal internationalism whether by choice, indoctrination, co-option or coercion. Current international law, European-originating and liberal in nature as it may be, is by no means as ideologically neutral, or necessary, as it appears. It is embedded in a universalist, imperialist automaton (a 'mechanism'). There have always been adverse and unintended consequences, repercussions and structural injustices that have come with it, as well as emerging sites and voices of critique.[5] One of the interesting debates, manifesting the controversy between the in-built universalisation desire of liberal internationalism and its many 'Others', is conducted at the site of frontier technologies

4 On critical legal pluralism see: M.-M. Kleinhans, and R. A. Macdonald, 'What Is a Critical Legal Pluralism', 12:2 *Canadian Journal of Law and Society* (1997) pp. 25–46, doi:10.1017/S0829320100005342. See also: N. Choudhury, 'Revisiting *Critical* Legal Pluralism: Normative Contestations in the Afghan Courtroom', 4:1 *Asian Journal of Law and Society* (2017) pp. 229–255, doi:10.1017/als.2017.2; S. E. Merry, 'International law and sociolegal scholarship: Toward a spatial global legal pluralism', in A. Sarat (ed.) 41 *Special Issue: Law and Society Reconsidered*: *Studies in Law, Politics, and Society* (2007) pp. 149–168. See also: H. Lindahl, 'A-Legality: Postnationalism and the Question of Legal Boundaries' 73:1 *The Modern Law Review* (2010) pp. 30–56.

5 This includes Third World Approaches to International Law (TWAIL), feminist, Marxist, psychoanalytical and other critiques. Relevant examples include: A. Anghie, *Imperialism, Sovereignty and the Making of International Law* (Cambridge University Press, Cambridge, 2005); Aristodemou (2014a), *supra* note 3; Aristodemou (2014b), *supra* note 3; H. Charlesworth, G. Heathcote, and E. Jones, 'Feminist scholarship on international law in the 1990s and today: an inter-generational conversation', 27:1 *Feminist Legal Studies* (2019) pp. 79–93, doi: 10.1007/s10691-018-9384-1; B. S. Chimni, 'Customary International Law: A Third World Perspective', 112:1 *American Journal of International Law* (2018) pp. 1–46, doi:10.1017/ajil.2018.12; L. Eslava, M. Fakhri, and V. Nesiah (eds.) *Bandung, global history and international law* (Cambridge University Press, Cambbridge, 2017), V. Hamzić, 'The case of "queer Muslims": Sexual orientation and gender identity in international human rights law and Muslim legal and social ethos', 11:2 *Human rights law review* (2011) pp. 237–274, doi:10.1093/hrlr/ngr010; S. Marks, 'International judicial activism and the commodity form theory of international law,' 18:1 *European Journal of International Law* (2007) pp. 199–211, doi: 10.1093/ejil/chm002; O. Korhonen and T. Skouteris, 'Under Rhodes Eye: The "Old" and the "New" International Law at Looking Distance', 11:3 *Leiden Journal of International Law* (1998) pp. 429–440, doi:10.1017/S0922156598000326; N. Tzouvala, *Capitalism as International Law: a history of international law* (Cambridge University Press, Cambridge, 2020).

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that enable various forms of automated algorithmic decision-making.[6] Since these decision-making mechanisms, and similar technologies, are – due to their multi-site and cyberspace nature – mostly not bound to any one national jurisdiction or territory, their rapidly growing implementation and use globally diffuse, *de facto* and *de jure*, the boundaries between international, transnational and national law and jurisdiction.[7]

The current international legal debate juxtaposes the frontier technologies of artificial intelligence (AI) varieties and their blockchain derivatives (such as smart contracting) as tools for crystallising a general liberal internationalism as a late version of a very particular ultra-capitalist global order, or, in the other extreme, as the completely unknowable 'Other'.[8] The debate is obviously mostly conducted in the spectrum in-between of any such extreme positions. Still, when focusing on frontier digital technologies and the automated algorithmic decision-making, international law is often approached from either techno-capitalist optimism, a somewhat stagnant techno-negativity or from a

6 See, e.g.,: M. Arvidsson, 'Maskininlärning och rättsligt beslutsfattande', in G. Noll (ed) *AI, Digitalisering och Rätten* (Studentlitteratur, Lund, 2021b), pp. 123–142; Bellanova *et al*, *supra* note 1; E. Jones, 'A Posthuman-Xenofeminist Analysis of the Discourse on Autonomous Weapons Systems and Other Killing Machines', 44:1 *Australian Feminist Law Journal*, (2018) pp. 93–118, doi:10.1080/13200968.2018.1465333; G. Noll, 'Weaponising neurotechnology: international humanitarian law and the loss of language' 2:1 *London Review of International Law*, (2014) pp. 201–231; Parsley, *supra* note 1.

7 See, e.g.,: T. Burri, 'The New Regulation of the European Union on Artificial Intelligence: Fuzzy Ethics Diffuse into Domestic Law and Sideline International Law', in S. Vöneky, P. Kellmeyer, O. Mueller and W. Burgard (eds.) *The Cambridge Handbook of Responsible Artificial Intelligence* (Cambridge University Press, Cambridge, 2022) pp. 104–122; M. Hildebrandt, 'Text-Driven Jurisdiction in Cyberspace' Keynote Hart Workshop 26–28 April 2021 *New Perspectives on Jurisdiction and the Criminal Law*, available at <https://osf.io/jgs9n/>, visited on 10 February 2023; M. Hildebrandt, 'Extraterritorial Jurisdiction to Enforce in Cyberspace? Bodin, Schmitt, Grotius in Cyberspace', 63 *University of Toronto Law Journal* (2013) pp. 196–224.

8 On the Other in international law, see M. Arvidsson, *The Subject In International Law: The Administrator Of The Coalition Provisional Authority Of Occupied Iraq And Its Laws,* Doctoral Dissertation (Lund University, 2017), <https://lup.lub.lu.se/record/6ee36f32-0ab1-408c-b858-3e34a068e51a>, visited on 10 February 2023. See also Aristodemou (2014a), *supra* 3; Aristodemou (2014b), *supra* note 3.

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tech-indifferent regulatory perspective.[9] To look for the 'otherwise' then, as we will do here, instead of looking for more of the same (present) international law, one must ask whether and if there are enough openings, gaps and encounters bringing international law's uncanny to reflexive analysis. Only then could we radically imagine other kinds of organising principles and meaning-making than the present ones that the so called Global North insists on as no less than TINA (*there is no alternative*).[10] This critical agenda is exemplified in the debates concerning automated algorithmic decision-making in that when the

9 For a discussion of the former, see https://consilienceproject.org/the-case-against-naive-technocapitalist-optimism/, see also J. Danaher, 'Techno-optimism: an Analysis, an Evaluation and a Modest Defence', 35 *Philosophy & Technology* (2022) pp. 1–24, doi:10.1007/s13347-022-00550-2. For international law and technology scholarship neither naively optimist, nor stagnant, see e.g., M. Fourcade and F. Johns, 'Loops, ladders and links: the recursivity of social and machine learning', 49 *Theory and Society* (2020) pp. 803–832, doi: 10.1007/s11186-020-09409-x; G. Heathcote, 'War's Perpetuity: Disabled Bodies of War and the Exoskeleton of Equality', 44:1 *Australian Feminist Law Journal*, (2018) pp. 71–91, doi:10.1080/13200968.2018.1470447; D. Gandorfer, 'Down and Dirty in the Field of Play: Startup Societies, Cryptostatecraft, and Critical Complicity', *Law and Critique* (2022) online publication 1 July 2022 doi:10.1007/s10978-022-09327-0; F. Johns, 'Global governance through the pairing of list and algorithm', 34:1 *Society and Space* (2016) pp. 126–149, doi:10.1177/0263775815599307; F. Johns, 'From planning to prototypes: new ways of seeing like a state', 82:5 *Modern Law Review* (2019) pp. 833–863, doi:10.1111/1468–2230.12442; F. Johns, 'State Changes: Prototypical Governance Figured and Prefigured', 33 *Law and Critique* (2022) pp. 251–271, doi:10.1007/s10978-022-09329-y; Jones (2018), *supra* note 6; M. Liljefors, G. Noll and D. Steuer and, *Algorithmic Warfare* (Rowman and Littlefield, New York, 2019); A. Leiter and M. Petersmann, 'Tech-based Prototypes in Climate Governance: On Scalability, Replicability, and Representation', 33 *Law and Critique* (2022) pp. 319–333, doi:10.1007/s10978-022-09331-4; Noll, *supra* note 6; Parsley, *supra* note 1; I. Roele, 'Style Management: Images of Global Counter-Terrorism at the United Nations', 33 *Law and Critique* (2022) pp. 273–297, doi: 10.1007/s10978-022-09330-5; A. Rouvroy and B. Stiegler, 'The Digital Regime of Truth: From the Algorithmic: Governmentality to a New Rule of Law', 3 *La Deleuziana – Online Journal of Philosophy* (2016), pp. 6–29; D. Van Den Meerssche and G. Gordon, 'Is This the Rhizome? Thinking Together with Fleur Johns', 33 *Law and Critique* (2022) pp. 237–248, doi:10.1007/s10978-022-09332-3; D. Van Den Meerssche, *supra* note 1; L. Wilcox, 'Embodying algorithmic war: Gender, race, and the posthuman in drone warfare', 48:1 *Security Dialogue* (2017) pp. 11–28, doi: 10.1177/0967010616657947. Just to mention a few.

10 For similar approaches, drawing on the uncanny in international law, see: U. Baxi, *Human Rights in a Posthuman World: Critical Essays* (Oxford University Press, Oxford, 2011); F. Idelberger, *The Uncanny Valley of Computable Contracts*. Unpublished PhD Thesis (European University Institute, 2022); I. Roele, *Articulating Security: The United Nations and its Infra-Law* (Cambridge University Press, Cambridge, 2022). The uncanny and law more broadly, see Aristodemou (2014a), *supra* note 3; Aristodemou (2014b), *supra* note 3. See also, R. M. Baecker, *Computers and Society: Modern Perspectives* (Oxford University Press, Oxford, 2019); A. M. Gerner, 'Towards the techno-social Uncanny', *Revista Portuguesa de Filosofia* (2019) pp. 2171–2206, doi: https://doi.org/10.17990/RPF/2019_75_4_2171.

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role of the human as the decision-making subject in the ritualised processes of global governance lessens, a more general re-structuring moment might emerge.[11] We propose to look at this opening for restructuring as another interesting site worthy of struggle and critique, making the uncanny of international law meet with its algorithmic 'double', and we do so by focusing on international law's subjects.[12]

Framed within a critical legal pluralism framework that focuses on international law's subjects,[13] as well as drawing on "the uncanny valley" – a well-known notion in robotics (we will come back to it and explain it in detail below)[14] – this article brushes past the debate about the legal characterisation and regulation of cyberspace.[15] Instead, it focuses on the question of its dwellers: subjects, objects, persons, non-persons and hybrids. To this end, we ask what the encounter between, on the one hand, international law and, on the other hand, the dwellers of cyberspace brings forth in terms of subjectivities, a plurality of normativities as well as the 'uncanny' in international law's meeting with its 'double', or 'Other'. This is possible only if we allow the presumption that, presently, we cannot understand international agency through traditional international legal dichotomies of monism/dualism.

By focusing on the fluid nature of subjects, critical legal pluralism suggests that global, transnational, international, domestic and local law and jurisdiction exist in a complicated relationship that produces sites of overlap,

11 Van Den Meerssche, *supra* note 1.

12 On international law's double, its uncanny and the Real, see Aristodemou (2014a), *supra* note 3; Aristodemou (2014b), *supra* note 3. The focus on international law's subject is directed by the critical legal pluralism framework: Choudhury, *supra* note 4; Kleinhans and Macdonald, *supra* note 4.

13 Choudhury, *supra* note 4.

14 M. Mori, 'The Uncanny Valley', 7:4 *Energy* (1970), pp. 33–35, 1970 (in Japanese); English translation by K. F. MacDorman, and N. Kageki, <https://spectrum.ieee.org/the-uncanny-valley>, visited on 10 February 2023. See also: T. Geller, 'Overcoming the Uncanny Valley,' 28:4 *IEEE Computer Graphics and Applications* (2008) pp. 11–17, doi: 10.1109/MCG.2008.79; D. Hanson, A. Olney, S. Prilliman, E. Mathews, M. Zielke, D. Hammons, R. Fernandez, and H. Stephanou, 'Upending the Uncanney Valley', 4 *AAAI'05: Proceedings of the 20th national conference on Artificial intelligence* (2005) pp. 1728–1729; J. R. Hamilton, 'The "uncanny valley" and spectating animated objects', 20:2 *Performance Research* (2015) pp. 60–69, doi: 10.1080/13528165.2015.1026731.

15 For a critical discussion on the normative effects of the spatial metaphor of 'space', see Cohen, *supra* note 2. On the legal characterization, see e.g., Hildebrandt (2013) *supra* note 7.

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integration, merger and hybridisation without annihilating law.[16] This entails a decentralisation and distribution of the idea of international law and maintains openings for international pluralist normativity. This is a de- and re-territorialisation and pluralist openness that some international legal scholars have already observed as part of automated algorithmic decision-making in international law and global governance.[17]

Yet the general debate on the 'character of the space' of international law, algorithmic decision-making, tech and cyberspace, like so many other debates in international law, tends both to be greatly overinclusive or underinclusive as to the applicability of international law and global regulation. It often overlooks the specificity, the layered-ness, and the parallelism of cyberspace, something that we will attempt to highlight and go beyond through recourse to legal philosophy concerning subjectivity and jurisdiction. With the help of the notion of the 'uncanny valley', as well as psychoanalysis, we will tease out

16 Choudhury, *supra* note 4; Kleinhans and Macdonald, *supra* note 4. There is a vast literature, which we draw on in our article, that explores the undoing of dichotomies such as nature/culture, man/woman, human/technological, natural/artificial. Relevant examples in political theory and philosophy include: K. Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Duke University Press, Durham, 2007); J. Bennett, *Vibrant Matter: A Political Ecology of Things* (Duke University Press, Durham, 2009); R. Braidotti, *Nomadic Subjects: Embodiment and Sexual Difference in Contemporary Feminist Theory* (Columbia University Press, New York, 2011); R. Braidotti, *The Posthuman* (Polity Press, London, 2017); R. Braidotti, *Posthuman knowledge* (Polity Press, London, 2019); R. Braidotti, *Posthuman Feminism* (Polity Press, London, 2021); D. Haraway, *Simians, Cyborgs and Women: The Reinvention of Nature* (Free Association Books, London, 1991). Relevant examples in international law, drawing on new materialism and feminist posthuman theory, exploring the dichotomic nature of international law, include: M. Arvidsson, 'Targeting, Gender and International *Post*humanitarian International Law: Framing the Question of the Human in International Humanitarian Law', 44:1 *Australian Feminist Law Journal* (2018) pp. 9–28, doi:10.1080/13200968.2018.1465331; M. Arvidsson, 'The swarm that we already are: Artificially intelligent (AI) swarming "insect drones", targeting and international humanitarian law in a posthuman ecology', 11:1 *Journal of Human Rights and the Environment* (2020) pp. 114–137, doi: https://doi.org/10.4337/jhre.2020.01.05; M. Arvidsson and E. Jones (eds.), *International Law and Posthuman Theory* (Routledge, Abingdon, 2023); A. Grear, E. Bolout, I.D. Vargas-Roncanico, and J. Sterling (eds.), *Posthuman Legalities: New Materialism and Law Beyond the Human* (Edward Elgar, Cheltenham, 2021); J. Hohmann, 'Diffuse subjects and dispersed power: New materialist insights and cautionary lessons for international law', 34:3 *Leiden Journal of International Law* (2021) pp. 585–606, doi:10.1017/S0922156521000157; E. Jones, *Feminist Theory and International Law: Posthuman Perspectives* (Routledge, Abingdon, 2023).

17 Hildebrandt (2021), *supra* note 7; Kleinhans and Macdonald, *supra* note 4; Van Den Meerssche, *supra* note 1. On the legal philosophical conception of Deleuzeoguattarian re/de-territorialization see also M. Bruncevic, *Law, Art and the Commons*, (Routledge, Abingdon, 2018), chapters 2 and 7.

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the juridical uncanny of international law in its encounter with its 'double' in form of the cyberspace' algorithmic dwellers.

Our article is structured as follows: First, we set out a background on subjects in international law. We explain how automated algorithmic decision-making, AI and related technologies have challenged the ways in which international law traditionally conceives of its subjects. Second, we introduce the notion of the 'uncanny valley' in robotic theory, as well as the Freudian notion of the uncanny. We then pursue the question of how the 'uncanny valley' applies to international law and the many actors and dwellers of cyberspace in two steps: by asking about the 'uncanny' of algorithmic decision-making in relation to international law, and by examining international legal scholarship's apprehension of cyberspace. Then, in a third step, we consider the uncanny as brought forth from within international law – rather than being a feature of the 'double', the 'Other', algorithmic automatic decision-makers or dwellers of cyberspace.

In the last section we sum up our arguments. We find that automated algorithmic decision-making changes both subjects and their processes. They do so in ways that international law's doctrinal tools are unfit to grasp: International legal doctrine operates with categories of traditional international subjectivity, subject-like agency (often by analogy) and traditional international legal decision processes. None of this applies to cyberspace or its dwellers. This is why, we argue, both international and national law as fields ought to open up to and embrace cyberspace and its dwellers through critical legal pluralism. Such openings, however, can only take place through a reflexive examination of international law's own uncanny brought forth by the encounter with the many almost-but-not-quite legal subjects and dwellers of cyberspace.

2 The Non-Human as the Unrecognised Subject of (International) Law

In a very traditional sense, states are the main subjects and persons of international law. In its strictest variation, the so-called functional theory affords international legal subjectivity and personhood only to intergovernmental organisations that possess personality by delegation from their member states to the extent that their constitutional functioning warrants it (e.g., Reparations 1948, *Texaco v. Libya*, Nottebohm). In a developed and contemporary version, multinational corporations, individuals, non-governmental organisations, substate entities and transnational associations can possess international subjectivity and even personality. It is only in recent years that international lawyers

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have become more welcoming to new subjects and their roles.[18] Even though there are indeed some minor exceptions in various individual decisions and jurisdictions, so far, other entities – such as animals, nature, or machines – have not been granted legal subjectivity in the sense that would be recognised on par with states.[19]

The becoming of an international legal subject has been legally and psychoanalytically dissected, e.g., by Matilda Arvidsson, who, following Jean Laplanche, argues that it is the fact that "the other can never be the same that makes each subject emerge as precisely itself, yet as nevertheless constituted by, and at the same time constituting, its others" and this is in contravention to the "homosocial imagination of the always-already fraternal adulthood of

18 See e.g., the reforms of the Permanent Court of Arbitration. See e.g., A. Rest, 'Enhanced Implementation of International Environmental Treaties by Judiciary – Access to Justice in International Environmental Law for Individuals and Ngos: Efficacious Enforcement By the Permanent Court of Arbitration', 1 *Macquarie Journal of International and Comparative Environmental Law* (2004), at <http://www.austlii.edu.au/au/journals/MqJlICEnvLaw/2004/1.html>, visited on 10 February 2023. For a critical account on legal personhood in international law, see: R. Parfitt, *The Process of International Legal Production* (Cambridge University Press, Cambridge, 2020). See also, Arvidsson (2020), *supra* note 16, Hohmann, *supra* note 16.

19 See e.g., the now famous 'monkey-selfie' case where the discussion concerned whether a human being ought to be the only life form able to be granted legal privileges and rights. The case concerned a photography created when a monkey snapped a camera from photographer David Slater and took a picture of itself – a 'selfie'. The legal question was whether Slater was the copyright holder of the image, technically taken by the monkey. When attempted to register the copyright in the United States, the American Copyright Office refused to grant registration to Slater claiming: "The Office will not register works produced by nature, animals or plants". *Naruto et al. v. Slater et al., no. 16-15469 (9th Cir. July 12, 2017)*. Oral argument. *Naruto et al. v. Slater et al., no. 16-15469 (9th Cir. April 23, 2018)*. A similar question emerged in 2012 when the river Whanganui in New Zealand was deemed to be a legal entity and given a 'legal voice'. After negotiations with local Māori people, it was legally recognised as a legal person. See: M. Bruncevic, *Law, Art and the Commons* (Routledge, Abingdon, 2018), pp. 147–148. On other examples of recognition of nature, machines, and other non-state actors, see further: M. Arvidsson and B. Sjöstedt, 'Ordering Human-Other relationships: International Humanitarian Law and Ecologies of Armed Conflicts in the Anthropocene', in V. Chapeaux, U. Natarajan, and F. Megret (eds.), *International Law and Anthropocentrism* (Routledge, Abingdon, forthcoming 2023); M. Davies, *EcoLaw: Legality, Life, and the Normativity of Nature* (Routledge, Abingdon, 2022); J. Gellers, *Rights for Robots: Artificial Intelligence, Animal and Environmental Law* (Routledge, Abingdon, 2021); E. Jones, 'Posthuman International Law and the Rights of Nature', 12 *Journal of Human Rights and the Environment* (2021) pp. 76–101, doi: https://doi.org/10.4337/jhre.2021.00.04; Y. Otomo and E. Mussawir (eds.), *Law and The Question of the Animal: A Critical Jurisprudence* (Routledge, Abingdon, 2013).

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positivist international law".[20] What we must recognise, however, is that all our others are not of such "fraternal sameness".[21] The more we experience ourselves similar to other actors, the more affinity, or fraternity, we feel toward them. And the more they seem like our brothers, the more likely we will be willing to grant them the same, or at least similar, rights as we have. Including those of decision-making as the ultimate power. Yet, similarly, the more we encounter other actors the more we are also likely to become unsettled sensing that they are almost-but-not-quite like us: There is something both eerily familiar and unfamiliar with the 'fraternal other', or in a Freudian vocabulary: the double.[22]

Automated decision-making agents acting through code do not seem to have much human affinity with international law and its subjects at the moment.[23] Still, increasing amounts of decision-making, and thus the normative construction of our daily reality, are made by them.[24] Coders recognise that the algorithms they create machine-learn to function in ways that cannot always be traced back to their original design. Law – international, transnational, supranational, national and a-national law – is confronted by the emerging algorithmic non-human, independent actors that create, make decisions, work and live in cyberspace: a space that is only to a certain degree territorial and which does not operate according to the jurisdictional logics of international law.[25]

In a manner of speaking, what happens in cyberspace thus seems to stay in cyberspace, especially when it is a question of layered artificially intelligent decision-making by non-human actors. Back on 'analogue' territory, however,

20 Arvidsson (2017), *supra* note 8. See also: M. Arvidsson, 'Laugh All You Medusas! Hélène Cixous' Écriture Feminine as Feminist Legal Translation, Transformation, Transgression, and Translactation in the Era of Ai and the Anthropocene', 47:2 *Australian Feminist Law Journal* (2022) pp. 283–297, doi: https://doi.org/10.1080/13200968.2021.2083781; J. Laplanche, *Essays on Otherness* (Routledge, London, 1999); Y. Otomo, *Unconditional Life: The Postwar International Law Settlement* (Oxford University Press, Oxford, 2016); S. Ramshaw, 'Nearing the "Wild Heart": The Cixousian "Feminine" and the Quest for Law's Origin', 19:1 *Australian Feminist Law Journal* (2003) pp. 11–27, doi: https://doi.org/10.1080/13200968.2003.10854312.

21 Arvidsson (2017), *supra* note 8, at 105.

22 Freud, *supra* note 3.

23 Arvidsson (2020), *supra* note 16.

24 Examples of this range from the everyday (and technologically rather simple) 'spam filters' of our email inboxes, deciding by whose 'call' we will find ourselves addressed as we open our 'dayly mail', to technologically advanced and complex automated decicions regarding security risk detection in international communication, mobility and inter-state relations.

25 Cohen, *supra* note 2; Hildebrand (2013), *supra* note 5.

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it forces law in general and international law in particular to question its taken-for-granted notions of fraternal recognition, subjecthood and terrestrial territorial jurisdiction. In a Lacanian psychoanalytical register, the question of 'the Real' is activated as international law and its scholarship encounters cyberspace and its dwellers, "the contingent, unrepresentable, and unassimilable" that international law represses and where the 'Other' dwells.[26]

In cyberspace, data is the material of space, selfhood and automated creation. Authorship of code, algorithms, programs, proceed both with or without human involvement: or rather there is human involvement at various stages and in different ways. Making and improving algorithms means that micro-decisions are made constantly which, when made in thousands and millions, accumulate, causing macro effects that are felt and made to work beyond cyberspace. Humans – be it human court clerks and judges at the International Court of Justice in the Peace Palace, human employees at the World Trade Organisation (WTO), or human soldiers of regular state armies – are liberated from (or deprived of) leading every project that is cast as either too trivial, too time-consuming, too repetitive or requiring the kind of precision, memory and speedy calculations in which a machine surpasses human capability.

The decision about what is seen as overly trivial, time-consuming, technical, etc. is much more complicated, risky and ideological than it is often characterised and recognised in international legal scholarship.[27] When human decision-makers make fewer of the decisions humans have traditionally made, their authorship of, and involvement in, the future and their agency in the workings of society – including the international community – lessen. Simultaneously, as algorithms take on more decision-making that human actors traditionally have pursued, the human input on decision-making is pushed back in time to the moment of data curating, data wrangling, design of training data and other decisions regarding the design, training and supervision of algorithms.[28] These 'technical' tasks are traditionally not what international lawyers are trained for: to recognise when training data sets are representative (or not) of the broader

26 Aristodemou (2014a), *supra* note 3, p. 39. See also Aristodemou (2014b), *supra* note 3; T. Eyers, *Lacan and the Concept of the 'Real'* (Palgrave, New York, 2012); and notes 50 and 51.

27 D. McQuillan, *Resisting AI: An Anti-fascist Approach to Artificial Intelligence* (Bristol University Press, Bristol 2022).

28 For more on the changed position of human decision-making in algorithmic design, see M. Arvidsson and G. Noll', 'Decision Making in Asylum Law and Machine Learning: Autoethnographic Lessons Learned on Data Wrangling and Human Discretion' *Nordic Journal of International Law*, 2023, this issue.

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data, to be able to identify errors in data selections and output, and making continuous and informed decisions on how to revise and retrain algorithms.[29]

Accumulated micro-decisions – the ones made as the algorithms sort data as either/or, or 1/0 – cause macro shifts, even if incrementally. The authority inherent in authorship thus fragments, subjective powers and sovereignty of legal persons disaggregate.[30] It is redistributed, decentralised and splintered to an increasing degree. Mostly we do not pay attention to where authority goes, i.e., the question of who the recipient of the 'freed-up' agency/power/decision-making capacity is.

Algorithms and code are often approached as products or services that handle data. Thus, the micro decision-making – fundamental to their functioning – taking place as they machine-learn and improve their functions is rarely recognised in international legal scholarship.[31] This is, in contrast to 'source code' – which is often the target of regulation (i.e., in the proposed EU AI Act)[32] – a question of continuous micro decisions taking place as the algorithms are at work. Mindful of the fact that no input data is 'either' or 'or', the algorithmic micro decisions are thus of probability and proximity.[33] Decontextualized in these ways, the social-human context in which algorithmic decisions are made to work are only made to impact in an indirect way (at the best) on algorithmic decision-making.

If compared to 'regular' consumer products, services or other resources, algorithms differ as they can be seen as – at least in part – actors on their own, independent of, or abstracted from, human agency. This is particularly true when considering the micro-decisions at the heart of their operations. Further still, a new type of non-human subject/object constellation has emerged because algorithms need maintenance by humans yet perform micro decisions

29 As John Haskell points out, lawyers working in the field of international law and economics have for a long time been familiar with and aware of these problems and challenges, the rapid spread of digitalisation and AI to new fields of society and relations between states and other international law actors have caused new challenges to the broader field of international law and international lawyers. J. Haskell, 'International Law as Cyborg Science', *Nordic Journal of International Law* (2023), this issue.

30 L. Amoore, *Cloud Ethics: Algorithms and the Attributes of Ourselves and Others* (Duke University Press, Durham, 2020).

31 See, however, Gandorfer 2022, *supra* note 9, on the micropolitical power of AI and its relation to fascism in law and legal scholarship. See also; Amoore, *supra* note 30; McQuillan, *supra* note 27.

32 The *Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonized Rules on Artificial Intelligence* (*Artificial Intelligence Act*) *and Amending Certain Union Legislative Acts* (COM/2021/206 final).

33 *Ibid*. See also McQuillan, *supra* note 27.

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without them.[34] Thus, algorithms are both products and digital actors creating and making (micro)decisions, independently. Moulding and splintering, they move that part of decision-making capacity which is 'automated' away from the human. Examples of the latter can be found in existing targeting mechanisms in semi-autonomous weapon systems operating together with, but partially independent from, the 'humans in the loop' and thus human agency. This is done through e.g., image recognition AI software, and fully automated algorithmic selection of imagery for legal clearance in lethal targeting processes.[35] The result is decisions delegated from humans and distributed to non-human algorithmic actors, who are initially coded by human law-tech experts – e.g., international humanitarian law (IHL) and technology experts – but subsequently more and more independent from, and oftentimes unpredictable to, the human coder that created them.[36] We know these entities as both objects and subjects, native to both cyberspace and the territory which is neither fully cyber nor fully terrestrial.[37] We also know these opinions as they exist beyond international legal subjecthood and jurisdictions. It is not surprising that they emerge as uncanny – *das Unheimliche* – evoking anxiety; nor is it particularly surprising that they dwell in a valley of the shadow of death and extinction of humanity. The latter seems to be an even more pressing concern as previous technological innovations – including the industrial revolution of the 19th and 20th century – seem to be a significant factor in the emergence of the current climate crisis.[38] It all appears familiar and frightening: *uncanny*.

34 Arvidsson (2020), *supra* note 16. Noll, *supra* note 6.
35 Arvidsson (2020), *supra* note 16; Jones (2018) *supra* note 6; Noll, *supra* note 6; Liljefors et al, *supra* note 9.
36 Arvidsson (2020), *supra* note 16. The unpredictability applies to unsupervised machine learning and so called 'black box' machine learning. For its application in automated legal decision-making, see: Arvidsson (2021), *supra* note 6.
37 Cohen, *supra* note 2.
38 D. Chakrabarty, 'The climate of history: Four theses,' 35 *Critical Inquiry* (2009) pp. 197–222, doi: https://doi.org/10.1086/596640; V. Chapeaux, U. Natarajan, and F. Megret (eds.), *International Law and Anthropocentrism* (Routledge, Abingdon, forthcoming 2023); P. Crutzen, 'The Anthropocene', in E. Ehlers, and T. Krafft (eds.), *Earth system science in the anthropocene* (Springer, Berlin, 2006); A. Grear, 'Deconstructing Anthropos: A Critical Legal Reflection on "Anthropocentric" Law and Anthropocene "Humanity"', 26 *Law & Critique* (2015) pp. 225–249, doi: https://doi.org/10.1007/s10978-015-9161-0.

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3 The Uncanny Valley

"The Uncanny Valley" is an influential essay on robotics written in 1970 by the Japanese robotics professor Masahiro Mori, which explores this sense of the uncanny as a sphere where the human, non-human and almost human meet.[39] Mori argues that the more human-like a robotic body is the more affinity human beings will feel towards it, even if it is *de facto* non-living. This affinity will last, Mori argues, up to a point where such bodies – in his essay mainly robots – start to evoke anxiety in humans, as they become too human-like. This is when robots become *uncanny*. Mori famously explores this sphere, referring to it as the 'uncanny valley', invoking two familiar tropes. These are the Freudian uncanny (*das Unheimliche*) and the valley of the shadow of death of the Bible.[40] Mori applies them to the technological field of robotics that he was part of developing in post-Second World War Japan.[41] The 'valley', as Figure 1 (below) shows, refers to the deep dip, or rift, in the exponential curve between affinity and human likeness.[42]

In Freud's work, the uncanny refers to, simply put, a feeling of discomfort and displeasure in the human being that appears either when a familiar situation or object is found to host something disturbing, or when disturbing situations or objects are found to host something familiar. What is at play is the tension between the familiar and the disturbing, where the recognition of something strange at the very core of one's self results in anxiety. Freud links *das Unheimliche* to the doubt as to whether a 'dead' object is alive or not (and indeed if oneself is also hosting death at one's core).[43] In Mori's essay there is, as James R. Hamilton puts it:

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39 Mori, *supra* note 14; Geller, *supra* note 15; Hanson et al, *supra* note 14; Hamilton, *supra* note 14.

40 The 'valley' is possible also a reference to the Californian Death Valley, assumed to be named after a group of settler colonialists who got lost and almost died there in 1849–1850.

41 Freud develops his theory of the uncanny (*das Unheimliche*) in Freud, *supra* note 3. See also Aristodemou (2014a) and (2014b), *supra* note 3. The 'uncanny' in Freud's terminology is developed by Lacan in the concept of the *extimate*, see e.g., Aristodemou (2014b), *supra* note 3, p. 40. The valley of the shadow of death appears in Psalms 23:4. On the etymology of the 'Death Valley', including a decolonial critique of its naming, see M. Bruncevic, *Regulating Cultural Heritage* (Routledge, Abingdon, 2022). On the relation between all of these valleys and the Silicon Valley, in which much of the frontier technologies are developed, see: A. Weiner, *Uncanny Valley: A Memoir* (Farrar, Straus and Giroux, New York: 2020).

42 Mori, *supra* note 14.

43 Freud, *supra* note 3.

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> a combination, perhaps a blending, of repulsion and attraction, an 'unsettling delight' felt in the presence of figures whose visually apparent features are very close to, but not exactly like, those of a healthy human being.[44]

The 'valley of the shadow of death' of the Bible is the landscape where Mori puts both the dead and the zombie.[45] Studying robots, prosthetic limbs, traditional Japanese puppet theatre and zombies, Mori broadly, and boldly, outlines this, his own notion of the 'uncanny valley', where actors become too familiar and too as it were, and in terms of international law, 'fraternal' yet *only almost* and therefore uncanny. They are repulsive and attractive at the same time. The uncanny is where human affinity starts to wane. In terms of international law, this is where international legal recognition declines as subjects are too much like international law's regular subjects, yet *only almost* and therefore too close to become recognisable at all.

Exploring the mathematical term *monotonically increasing function,* Mori describes a relation "in which the function $y = f(x)$ increases continuously with the variable x. For example, as effort x grows, income y increases, or as a car's accelerator is pressed, the car moves faster."[46] Mori goes on to argue that the same logic might be applicable here, as our attempt at "making robots appear human, our affinity for them increases until we come to a valley (Figure 1), which I call the uncanny valley."[47] Mori illustrates this tendency in this way:

Maria Aristodemou takes a Lacanian turn on the uncanny. She explains that while Freud sees the uncanny manifested in the "double" as "the part of ourselves that is so extremely intimate that we have hidden even from ourselves", Lacan helps us see that "'feelings are deceptive'."[48] The only affect that does not lie is anxiety. "Uncanny encounters", she continues, "can render the invisible [in us] visible".[49] Which is why they cause anxiety. In a Lacanian understanding what is rendered visible is the '*extimate*' – the 'Other' in ourselves – as well

44 Hamilton, *supra* note 14, pp. 60–61. Citation to Gross 2011: 2 omitted: K. Gross, *Puppet: An essay on uncanny life* (University of Chicago Press, Chicago, 2011), p. 2.

45 Mori, *supra* note 14; Geller, *supra* note 15.

46 *Loc.cit.*

47 *Loc.cit.*

48 Aristodemou (2014b), *supra* note 3, citing J. Lacan, *The Ethics of Psychoanalysis 1959–1960*. Edited by J.-A. Miller and J. Lacan. Translated with notes by D. Potter (Routledge, London, 1992) p. 41.

49 Aristodemou (2014b), *supra* note 3.

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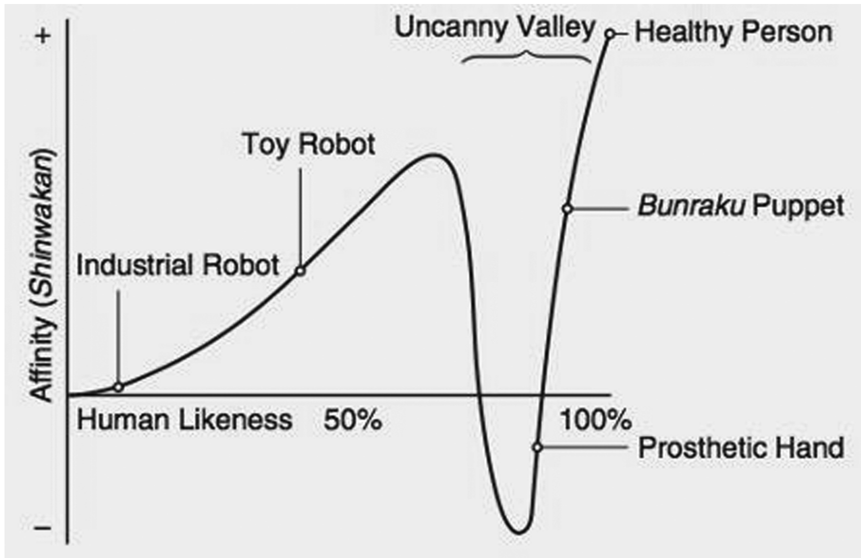

FIGURE 1 The Uncanny Valley as illustrated by Mori

as the 'Real'. The latter of which is not to be conflated with 'reality' in an everyday sense. Aristodemou explains:

> what is horrific about the Real is that, unimaginable as it is, it nevertheless does happen, or more accurately strikes. But what renders it 'Real' is that it exceeds our capacity for representation; since we do not have the words to represent it, it remains unassimilable in our experiences.[50]

The uncanny encounter, or being struck by 'the Real' in the uncanny valley, is – as scary as it may sound – an important place for international law and scholarship. It is where international law can touch upon that which law and lawyers have no words for:[51]

> such an encounter has the potential to be an ethical experience; the ethical advantage of the uncanny experience is to enable us to see the

50 Aristodemou (2014a), *supra* note 3, p. 35.

51 Aristodemou, (2014a), *supra* note 3, p. 50: "The Real, we could say, is the nakedness we cannot bear to witness so we 'clothe' the Real with reality, that is, with a bit of fiction, to make it palatable: since we can't beat the Real, we reconstitute it through fictions and fantacy. … Some of the fictions we use are of course 'legal fictions'; the Real is without law so reality and the symbolic order tame the Real with rules and conventions. … So while lawyers may be focused on reality, for psychoanalysis the focus is the Real, that is the truth beyond reality."

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> extimate other in ourselves and thus to confront what is most intimate to us and yet unknown to us.[52]

It should be said that Mori's is but a theory, and that when put to various *real* situation tests, it seems like the 'uncanny valley' does not appear as deep, significant or to be existing at all.[53] This does not mean that the 'uncanny' is not significant to international law, or that there is no 'valley' (of the shadow of death) haunting humanity in its pursuit of developing new technologies. There are several examples of cultural contexts in which the uncanny appears in the form of the meeting between, on the one hand, scientific developments and, on the other hand, the human fear of authoring something that will become her master. Frankenstein's monster, Mary Shelley's figure from her 1818 horror story, is only one such basic example. The comic series and later movies- and TV series figure *Spiderman*, the *Robocop* movies, and the TV series *Black Mirror* are other examples of post-World War II anxieties around technological development, human agency and mastery.[54]

An attempt at acknowledging a-human actors – neither dead, nor alive, and thus uncanny in the Freudian sense – is articulated in Mori's text. A valley opens up where the Real strikes and the a-subject, a-object, a-human and a-nonhuman, appears before us. When applying Mori's reasoning of the uncanny valley, together with a Freudian-Lacanian reading, to non-human decision-making in cyberspace, a picture emerges where human subjects and the states are displaced from their otherwise central positions in international law.

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52 Aristodemou, (2014a), *supra* note 3, p. 131.

53 Hanson et al, *supra* note 14; C.C. Ho, and K. F. MacDorman, 'Meassuring the Uncanny Valley Effect: Refinements to Indices for Perceived Humanness, Attractiveness, and Eeriness', 9 *International Journal of Social Robotics* (2017) pp. 129–139, doi:https://doi.org/10.1007/s12369-016-0380-9.

54 M. Shelley, *Frankenstein; or, The Modern Prometheus* (Lackington, Hugues, Mavor & Jones, London, 1818). See also: B. Johnson, *A Life with Mary Shelley* (Stanford University Press, Stanford, 2014); Arvidsson (2017), *supra* note 8. On science fiction superheroes, law and legal theory, see T. Giddens, 'Lex Comica: On Comics and Legal Theory,' in T. Giddens (ed.), *Graphic Justice: Intersections of Comics and Law* (Routledge, Abingdon, 2015), pp. 8–15; T. Peters, *A Theological Jurisprudence of Speculative Cinema: Superheroes, Science Fictions and Fantasies of Modern Law* (Edinburgh University Press, Edinburgh, 2022); T. Peters, 'Daredevil as Legal Emblem' 2:2 *Law, Technology and Humans* (2020) pp. 1–29, doi: https://doi.org/10.5204/lthj.1656. On science fiction as a source of development of emergent technologies and international legal regulation, see: Arvidsson (2020), *supra* note 16; R. Liivoja, 'Technological change and the evolution of the law of war', 97:900 *International Review of the Red Cross* (2015) pp. 1157–1177, doi:10.1017/S1816383116000424.

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The 'uncanny valley' can help us (as international legal scholars) to identify actors otherwise invisible to international law's capacity of recognition. These are actors assembled from objects into subjects, who in turn relate to other subjects/objects constellations in cyberspace.[55] It is this subjectivity that is not only human but also digital, mechanic and automatic, connected to something a-human such as a machine or an algorithm, that challenges the entrenched dichotomy in law that divides subjects from objects. In a Freudian-Lacanian terminology it is the double – the figure that, as Aristodemou points out, international law would "normally never meet" and therefore never have to confront as other/same in relation to its self. Drawing on Arvidsson's terminology, the question is whether it is a 'fraternal same' or an 'Other'?[56] This encounter between the double – the almost-yet-not-quite of international law – has the potential to "render the invisible visible", enabling international law to recognise and see itself – its own premises and faultiness – "from the outside".[57] This is also, and importantly, "the moment of analysis and possibility of ethics" as part of international-, transnational-, national- and a-national law.[58] At this juncture, a move away from traditional dichotomies in international law gravitates towards a sort of a-human, posthuman or even cyborgian subjectivity beyond the biological 'human' as recipient of rights under e.g., international human rights law (IHRL, and as individual under the obligations and individual criminal responsibility of IHL and international criminal law (ICL)). In its place dematerialised, de-territorial, disembodied and de-subjectivised actors emerge.[59] In the gap that opens up – the uncanny valley where international law encounters the a-human, posthuman or even cyborgian subjectivity – the uncanny core in international law opens up to analysis. At the core of international law we find its well-kept 'secret' that there is no core, no origin, no God or Father. Instead: a void. In response to this void international law seeks

55 B. Chatterjee, 'Cyber cities: Under construction', in A. Philippopoulos-Mihalopoulos (ed.), *Law and the City* (Routledge, Abingdon, 2007), pp. 255–269; L. Lessig, *Code and Other Laws of Cyberspace* (Basic Books, New York, 1999). See also: A. Philippopoulos-Mihalopoulos, *Spatial Justice, Body, Lawscape, Atmosphere*, (Routledge, Abingdon, 2014), p. 121.

56 Aristodemou (2014b), *supra* note 3, p. 131; Arvidsson (2017), *supra* note 8, p. 105.

57 Aristodemou (2014b), *supra* note 3, p. 131. See also Aristodemou (2014a), *supra* note 3, p. 41.

58 Aristodemou (2014b), *supra* note 3, p. 132.

59 On the cyborg, see Haraway, *supra* note 16. On posthuman subjectivity, see: Braidotti (2017), (2019) and (2021), *supra* note 16. On posthuman subjectivity and international law, see: Arvidsson (2020) *supra* note 16; Arvidsson and Jones, *supra* note 16; Hohmann, *supra* note 16; Jones (2021) *supra* note 19; Jones (2023), *supra* note 16. See also Bruncevic (2018), *supra* note 19, p. 68.

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to expand itself to ever new territories, subsuming them under its regime of "recognition of fraternal sameness".[60]

We could break down Mori's figure even further and identify three main types of actors from it. *First*, there are the technologically and digitally augmented human beings (top right corner). These are regular humans who are technologically augmented with what can be called human-plus-devises.[61] This includes technologies already widely used, such as pacemakers – used to enhance the human heart's capacity – and prostatic limbs. It also includes military uniforms designed with exoskeleton functions used to enhance the bodily capacity of human warfighters, levelling out differences in terms of physiological strength and endurance between e.g., men and women.[62] Finally, this first category also includes digital avatars and profiles of individual human beings and their private data.[63] In international law, this top right corner is the home of states as well as digital platforms and profiles of traditional international legal subjects such as states and international organizations.

The *second* category consists of broadly non-human entities (bottom left corner) who are lacking in human-like bodily, sensory or mental features, e.g., artificial intelligent entities that can make automatic and independent algorithmic decisions. This category typically includes e.g., algorithms employed to generate decisions for further execution as part of border security controls and cyber defence programmes.[64] Nonetheless, in terms of international law these entities have hitherto only been recognized as an extension of other already

60 On the 'secret' at the core of law that there is no secret, see Ramshaw, *supra* note 20; Arvidsson (2022), *supra* note 20. Aristodemou (2014b), *supra* note 3, explains this in a Lacanian register: "To give a short diagnosis of this symptom, international law, like any subject, like all of us … is marked by a lack at its centre. Indeed the constitution of international law, like the identity of any subject or discipline, is achieved by a cut; what psychoanalysts call castration. Once that cut has been inflicted the subject goes on endlessly looking to recover the missing bit, deluding herself that if only she had that bit she would be 'whole'." (p. 38).

61 This category invokes and overlaps to some degree with transhumanist ideas and developments (not to be conflated with posthuman subjectivity: *supra* note 60): F. Ferrando, 'Transhumanism/Posthumanism', in R. Braidotti and M. Hlavajova (eds.), *Posthuman Glossary* (Bloomsbury, London 2018) p. 438.

62 Heathcote, *supra* note 9. For enhancement through neurostimulation in warfare, see Noll, *supra* note 6.

63 Examples include Second Life avatars <https://secondlife.com/>, visited on 10 February 2023, as well as digital social platform data. On the potential legal subjectivity and liability of avatars, see B.C. Cheong, 'Avatars in the metaverse: potential legal issues and remedies' 3 *International Cyber Security Law Review* (2022) pp. 467–494, doi: https://doi.org/10.1365/s43439-022-00056-9.

64 Van Den Meerssche, *supra* note 1.

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established entities. They are thus seen as part of state actors' cyber warfare, cyber security or non-state actors' attacks on states' cyber security.[65]

Third, there is the potentially uncanny category of less-than-human, yet more than non-human (middle of the chart) including e.g., machine intelligence, robots and algorithms drawing on human-featuring interfaces such as human voices. In this category we find examples such as 'Sophia' – the intelligent humanoid robot launched by Hanson Robotics, in 2016 – ChatGPT and Google's 'Alexa'.[66] While Mori's essay and his figure does not include entities that are typically interesting to dogmatic international law – such as semi-automated weapons systems featuring e.g., human-like voice interfaces – these may also in some cases be included in the third category.[67]

In doctrinal international law terms, legal subjectivity – primarily that of states – cannot easily be placed in the Morian figure. We can safely assume that the actors placed at the top right corner (the healthy physical person) is recognised as having legal subjectivity within the context of IHRL, and when applicable also in IHL and ICL. Industrial robots, at the bottom left-hand side of the figure, have no subjectivity under international law.[68] But the entities in-between, the inter- and a-national actors and dwellers of the uncanny valley, are yet to be fully accounted for and defined as subjects, objects or *something else*, in and of international law. At least so if international law is to maintain its capacity to describe and thus order the phenomena that are part of or to a significant degree are part of international and global governance, as well as the everyday lives of peoples. Technological or automatic independent agency and creation by AI where human involvement is minimal – such as the work of AI artists and invention-generating AI such as DABUS – are examples of this type of *something else*.[69] This far, national and EU legislators, the UN agencies and the respective courts of law that attach to national, EU and international law have been reluctant to recognise these agents as having any *legal* subjectivity.[70]

65 See part 4 below.

66 See, e.g., R. Ricco, 'Sophia Robot: An Emergent Ethnography', 65:3 *The Drama Review* (2021) pp. 42–77, doi: 10.1017/S1054204321000319.

67 For examples of the latter, see e.g., the U.S. Defence Advanced Research Agency (DARPA), e.g., its' 'Next AI Campaign', webpage <https://www.darpa.mil/work-with-us/ai-next-campaign>, para 14, visited on 10 February 2023.

68 Although, see e.g., Gellers, *supra* note 19.

69 On the DABUS case, see among others *Thaler v. Commissioner of Patents* [2021]; See also Federal Court of Australia 879; EPO decisions: EP 18 275 163 & EP 18 275 17. A similar reasoning was applied in the German Federal Patent Court for the same case, 11 W (pat) 5/21, Announced on November 11, 2021.

70 M. Bruncevic, 'AI, kulturproduktion och upphovsrätt', in G. Noll (ed.), *AI, digitalisering och rätten* (Studentlitteratur, Lund, 2021), pp. 229–233.

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However, these agents exist as the Freudian-Lacanian doubles of international law's subjects. They dwell in a territory of both law and non-law that could be considered as international law's *uncanny valley*. This space, territory or jurisdiction is neither national nor international but rather pluralistic.[71] The juridical uncanny valley is central to – it forms part of – the core of international law as well as the non-human actor. Therefore, more than seeing a range of potential emerging subjects in international law, what is apparent is that the entire digital sphere, the cyberspace, emerges as a potential territory, or jurisdiction, that is unaccounted for – and remains unaccountable – in doctrinal international law, yet it impacts on international law's normative power.[72]

4 Cyberspace as International Jurisdiction Emerges

The pioneers of the cyberspace movement worked towards envisioning an Otherwise, or of parallel and alternative systems through "cryptography (which) presented the first credible tactic to even approach the ideal".[73] This vision of parallel or alternative core systems (e.g., for transactions), legal or economic has since given rise to a renewed excitement as well as new possibilities, particularly in the past decade. The parallel spaces now do indeed exist, but they do not, however, get constituted with parallel structures of governance, subjects, objects and concepts in law: international law or otherwise.

We now "wear and carry more devices than ever, creating fragmented 'device ecologies' that blend the *co-present* with those distant, a form of 'perpetual contact' or 'dwelling' generating new ways of socializing with each other, such as 'channel blending', or the 'threading' of technology with everyday interactions".[74] Thus, we seem to have truly entered the dialectic of the human and non-human that share a common space: the cyberspace as territory. As a result, cyberspace and analogue space may have become doubles, and thus an 'Otherwise territory', a juridical uncanny valley, opens up.

71 On international law's double, see Aristodemou (2014a), *supra* note 3. On law's double, see Aristodemou (2014b), *supra* note 3.

72 See note 4.

73 B. Dale, 'Cypherpunk, Crypto Anarchy and How Bitcoin Lost the Narrative', 24 November 2020, <https://finance.yahoo.com/news/cypherpunk-crypto-anarchy-bitcoin-lost-121819839.html>, visited on 10 February 2023.

74 J. E. Fischer, S. Reeves, B. Brown, and A. Lucero, 'Beyond 'Same Time, Same Place': Introduction to the Special Issue on Collocated Interaction', 33:5–6 *Human–Computer Interaction* (2018) pp. 305–310, doi: 10.1080/07370024.2018.1440556. In-text references omitted.

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What once was an extropian dream has as a result in many ways became a new reality, a daily occurrence, and part of human life. Several states (e.g., Finland, France, New Zealand and Estonia) have published legal opinions on how this new reality of cyberspace relates to international law.[75] Similarly, international organisations – notably the United Nations (UN) and the North Atlantic Treaty Organization (NATO) – have issued statements and reports on the applicability of international law to, and governance of, cyberspace. To this end, the UN has established the Open Ended Working Group (OEWG) on cyber security, operating in 2019–2021.[76] Since 2016, NATO has developed several focused efforts on cyber defence strategies, "emerging and disruptive technologies", as well as "hybrid threats".[77] There is also the *Tallin manual* of 2013 (updated in 2017), developed by international legal scholars in pursuance of an international legal jurisprudence of (cyber)security and (cyber)warfare.[78]

These statements, policies, scholarship and legal opinions are in many ways predictable. They reaffirm the applicability of international human rights and freedoms, IHL and ICL. They condemn violence and crime and seek to promote the maintenance of peace and security. All of this is pursued in the old monist/dualist spectrum of expanding international law to *just another new sphere of existence*. The national legal opinions insist on 'business as usual', i.e., not even

75 See, e.g., the official Finish international law position: 'International law and cyberspace: Finland's national positions', released on October 19 2020 by the Finish ministry of foreign affairs: 'Finland published its positions on public international law in cyberspace'. <https://valtioneuvosto.fi/en/-/finland-published-its-positions-on-public-international-law-in-cyberspace>, visited on 10 February 2023.

76 Instituted following General Assembly Resolution A73/27, The work, inclusive of all working documents, of the OEWG is available at: <https://www.un.org/disarmament/open-ended-working-group/>, visited on 10 February 2023. The final report of the OEWG: A/75/816 (2021) 'General Assembly – Security Council Report: Developments in the field of information and telecommunications in the context of international security', <https://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/a_75_816.pdf>, visited on 10 February 2023.

77 See the official NATO web page on cyber defense: <https://www.nato.int/cps/en/natohq/topics_78170.htm>, visited on 10 February 2023.

78 M. Schmitt (ed.), *Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations* (Cambridge University Press, Cambridge 2017). For insightful critiques of the Tallin Manual, see: L.J. Boer, 'Restating the Law as It Is: On the Tallinn Manual and the Use of Force in Cyberspace,' 5:3 *Amsterdam Law Forum* (2013) pp. 4–18, doi: http://doi.org/10.37974/ALF.257; L.J. Boer, '"Spoofed Presence Does not Suffice": On Territoriality in the Tallinn Manual,' in M. Kuijer, and W. Werner (eds.), *Netherlands Yearbook of International Law* (T.M.C. Asser Press, The Hague, 2016) pp. 131–145; D. Effroy and Y. Shaney, 'A Rule Book on the Shelf? Tallinn Manual 2.0 on Cyberoperations and Subsequent State Practice,' 112:4 *American Journal of International Law* (2018) pp. 583–657, doi:10.1017/ajil.2018.86.

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on the level of a transitional period analogous to that of 1989.[79] In Finland's case, the characterisation of the principles is telling: Finland emphasises that it published the principles of *public* international law applicable in cyberspace, meaning that the state perspective is what continues to set the parameters of governance. This is so, even as cyberspace, arguably to an even greater extent than regular terrestrial space, blurs the public-private distinction and causes an increasing number of decisions to get out of the hands of traditional international and national legal subjects – natural or juridical persons, including states. In Lacanian terms international law and doctrine is busying itself with describing an emerging new reality while being dumbstruck by the Real, staring at its double stuttering 'you are just another fraternal sibling'.

On the academic side, discussion about cyber warfare, cyber security and the nature of cyberspace is often re-affirming of international law's capacity to expand into new territories and subsume the 'Other' (or "fraternally" re-cognise the other) as part of the 'self' (in other and somewhat careless wordings: even if the cyberspace is 'somewhat different' it is close enough to just apply international law as we know it). Cyberspace is portrayed as just another territory, at times as a new kind of *terra nullius*, onto which international law can be expanded and applied.[80] Yet, if we were to accept this line of argument we would fall into what Lacan calls the trap of 'normalizing' of international law's ego, assisting to gloss over the real question haunting international law. In Aristodemou's words:

> entering the dimension of the patient's imaginary in order to 'cure' the patient's ego means in effect normalizing it while ignoring the dimension of desire: the dimension that is not normal or universalizable but is

79 D. Kennedy, *A World Of Struggle: How Power, Law, And Expertise Shape Global Political Economy* (Princeton University Press, Princeton, 2018), pp. 2–4.

80 For a critical appraisal of the *terra nullius* doctrine in international law and its application to cyberspace, see: V. Jeutner, 'The Digital Geneva Convention: A Critical Appraisal of Microsoft's Proposal', 10 *Journal of International Humanitarian Legal Studies* (2019) pp. 158–170, doi:10.1163/18781527-01001009. Microsoft's proposal: 'A Digital Geneva Convention to Protect Cyberspace', Microsoft Policy Papers 1, <www.microsoft.com/en-us/cybersecurity/content-hub/a-digital-geneva-convention-to-protect-cyberspace>, visited 20 December 2022. On metaverse: The word 'metaverse' is a portmanteau of the prefix 'meta' (meaning beyond) and 'universe'; the term is typically used to describe the concept of a future iteration of the internet, made up of persistent, shared, 3D virtual spaces linked into a perceived virtual universe." C. Hackl, "Defining Metaverse Today". The Forbes, May 2, 2021. See: <https://www.forbes.com/sites/cathyhackl/2021/05/02/defining-the-metaverse-today/?sh=48c789246448>, visited 10 February 2023.

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> unique to each subject. It is to ignore the real question, which is why the patient thinks he is a plagiarist.[81]

To normalize international law's desire to expand and engross itself is also, as Aristodemou elaborates, to ignore the question of the Real. This is the question as to why international law desires to address *everything and anything* as its own, through its own terminology.[82]

In contrast to much of the 'let's just expand existing international legal regulation and the recognition of international legal subjecthood to cyberspace' scholarship, and siding with critical international legal scholarship pertaining to AI, automated decision-making, and algorithmic global governance, we find that cyberspace, its dwellers as well as the decisions taking place in cyberspace, require an ontology beyond the dualistic and dichotomic separations of object/subject, nature/culture, state/non-state, man/woman, human/non-human, human/artificial. They also require a way of recognition that goes beyond "fraternal sameness".[83] A law responding to those requirements would be an inter-, a- or post-national law worthy of our own time.

Although discussions about the transformation of concepts as jurisdiction in cyberspace exist, many, when all is said and done, hark back to hardware, and the physical traces of the virtual. International lawyers seem to conceive of it as a kind of 'place', or physical territory.[84] At least, the pipes, bolts and wires need to exist somewhere and the sovereign of the 'somewhere' can take traditional jurisdiction. However, when decision-making needs to be scrutinised and determined as being legal or not, and if it cannot be convincingly attached to a human being or, indeed, a state, when it is digital and automated through algorithms that are the actors at hand, it can even less be attached to pipes, bolts and wires of international law. Intent, *opinio iuris*, *mens rea* and reasonability are complicated abstractions that hardware does not carry or transmit. As cyberspace (in the citation referred to as 'metaverse') specialists argue,

> [it] presents challenges to the international order due to the limited ability of states generally to intervene in metaverse-based actions … One

81 Aristodemou (2014b), *supra* note 3, p. 43.

82 Aristodemou (2014b), *supra* note 3. We also note with Fleur Johns that international law operates through a defining category of abjects – the extra-legal, illegal, pre-legal, non-speakable, the less-than-subjects, the neither-addressable-nor-ignoreable – that John analyse as the 'non-legal': F. Johns, *Non-Legality in International Law* (Cambridge University Press, Cambridge, 2015). On 'a-legality' see: Lindahl, *supra* note 4.

83 Arvidsson (2017), *supra* note 8; Otomo, *supra* note 20.

84 Cohen, *supra* note 2; Hildebrandt (2013), *supra* note 7.

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> fascinating, and perhaps off-putting, matter … is the lack of clarity and, at times, the absurdity of earthly legal matters when applied in, and to, the metaverse.[85]

If the international cyber 'terrain', or jurisdiction, is something that cannot be defined similarly as its terrestrial international legal counterparts – land, water or air space – and the subjects, actors and authors are not reducible to the same characteristics as physical-natural and international legal persons – and if online 'life' (or *onlife* as Floridi terms it)[86] is prone to leave much to automated algorithmic decisions, then it is brave indeed to re-affirm that international law has got it covered.[87]

It would be more honest to say that by reaffirming international law's applicability to cyber-phenomena – even if it is only to some of the many different phenomena, decisions and dwellers of the cyber sphere – is to say that we do not desire any change in the structure and the value system that international law currently sustains and represents, even if subjectivity changes, and spaces are more hybrid than ever. A very honest conclusion of this line of argument is that international law should never examine its own uncanny, but to just go on and bury its own dark secrets as deep down as it can, offering itself to no unsettling analysis. It is, moreover, to suggest that we can draw the Lauterpachtian analogies as skilful international lawyers and international legal scholars:[88] We throw the blanket of international law *over any gap* and conflict that the non-conforming new modes of international jurisdiction, subjectivity and action may present. As a last resort, we draw the Lauterpachtian analogies by tracing the physical location of the nuts and bolts of a machine or the physical

85 E. Ahonen, 'Crazy Outcomes when current laws applied to NFTs and the metaverse', *Bitcoin Insider*, <https://www.bitcoininsider.org/article/182895/crazy-outcomes-when-current-laws-applied-nfts-and-metaverse>, visited on 10 Febraruy 2023.

86 L. Floridi, *The Fourth Revolution: How the Infosphere is Reshaping Human Reality* (Oxford University Press, Oxford, 2014), p. 69.

87 Contra: Schmitt, *supra* note 78; Jeutner, *supra* note 80.

88 H. Lauterpacht. *Private Law Sources and Analogies of International Law: With Special Reference to International Arbitration* (Longmans, Green and Co. Ltd., London, 1927) pp. xxv, 325. Reprinted 2002 by The Lawbook Exchange, Ltd.

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residence of a programmer or coder in order to, for example, mimic IHL command responsibility.[89]

Yet, this re-affirming and analogue-reliant 'digital realism' is the cautious and conservative approach that remains more or less intentionally oblivious to much of the new way of interacting, decision-making and new phenomena constituted by the non-physical attributes of cyberspace and its dwellers; *a complex movement that must be recognised without being recognised as the fraternal same*. In the extreme it deprives the potential to see international law's uncanny valley as a site of self-analysis and ethical struggle between restructuring and co-option. In David Kennedy's terms, international law, by seeking to either subsume to 'sameness' or not to recognise at all, seeks to deny upheavals, be they like those of 1648, or lesser ones.

There are two ideas of sustainability conflicting here: on the one hand, that of preserving and sustaining the present imperfect international legal system of slow and terminally inadequate renewal, and, on the other hand, that which aims at changes that would be radical enough to start imagining new ways of organising and structuring cyberspaces to better support plurality, complexity and – if we are to be really bold – ecological and global justice.[90]

5 International Law and the Judicial Uncanny Valley as a New Frontier

Mori's uncanny valley is one in which a robot is too similar to its human creator and thus awakens its anxiety. Yet, with Freud and Lacan we have learned that what awakens the eerie feeling and the anxiety is about the realisation, through the encounter with the 'Other', of there being something strange and unfamiliar *within oneself*. The uncanny in international law's juridical uncanny valley is thus not the 'Other' – the frontier technologies or the cyberspace

89 On the debate of IHL command responsibility and its analogous application to non-human agency, see: Y. Gunawan, M. Haris Aulawi, R. Anggriawan, and T. Anggoro Putro, 'Command responsibility of autonomous weapons under international humanitarian law', 8 *Cogent Social Sciences: Criminology & Criminal Justice* (2022) pp. 1–16, doi: https://doi.org/10.1080/23311886.2022.2139906; P. Margulies, 'Making autonomous weapons accountable: command responsibility for computer-guided lethal force in armed conflicts', in D. Ohlin (ed.) *Research Handbook on Remote Warfare* (Edward Elgar, 2017) pp. 405–442; A. Sharkey, 'Autonomous weapons systems, killer robots and human dignity', 21 *Ethics and Information Technology* (2019) pp. 75–87, doi: https://doi.org/10.1007/s10676-018-9494-0. Hildebrand analyses this 'Lauterpachtian' analogy of physical localization of cyberspace in Hildebrandt (2013), *supra* note 7.

90 Kennedy, *supra* note 79; Hildebrandt (2021), *supra* note 7.

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dwellers. Instead it is the gap at the core of international law. International law's juridical uncanny valley is, then, a Harawayian 'staying with the trouble' of international law having to confront the secret at its own core, to stay with it and to confront it through a continuous encounter in the uncanny valley of cyberspace and its frontier dwellers.[91]

Through frontier technology we have partly human, partly artificial and AI controlled actors governing strikes in terrestrial operations – e.g., in warfare. We have individuals' digital doubles popping about online in games committing good and bad, and even criminal acts, making purchases, creating content, hacking and being hacked, harvested, appropriated, fragmented, reassembled and repurposed by commercial actors to manipulate for economic and political purposes that cyberspace entails. There is identity theft, decentralised actors consisting of various groups of humans, various technologies of both the smarter and the dumber kind powered by coded contracts. We find human individual and collective action, and their interaction with (machine learning from) other phenomena. All of this is part of cyberspace.

The constitutional instruments of these diverse actors and their operative codes may be co-authored. Yet, they are constantly accumulating, never ratified and never attributable to an established and stable body, an individual state or a group of states. The sum of hundreds of millions of incremental non-human choices has become more powerful than human democratic governance decisions in changing the global political landscape. To trace these back to states and the international legal order gives a partial explanation at best.

Thus, to insist in a reductionist way on bringing cyberspace phenomena (back) to state control, to regulate and to be inter-nationally responsible (a responsibility between stately 'brothers') for it, is an exercise in statist vanity. This is not to say that states are or become redundant. Rather, the role of states and international law as ordering 'everything, everywhere, all at once' has changed to a large degree. That change should be guided by a substantiated understanding of the technological and ontological properties of cyberspace.

When decision-making changes, the traditional decision-making subjects, and their territories, change too.[92] International law has always struggled with the element of subjectivity with regard to, e.g., the doctrine of *opinio iuris* in customary law and in establishing intent to commit genocide and other war crimes that necessitate the action of armies rather than individuals.

91 D. Haraway, *Staying With the Trouble: Making Kin in the Chthulucene* (Duke University Press, Durham, 2016).
92 Hildebrandt (2013), *supra* note 7.

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Cyberspace developments bring a new terrain of action adding new kinds of collectivist, non-human actors and authors of decisions, and it splinters the human individual into many parts through digital doubling and parallelism.[93] Digital and analogue identities of traditional, often national law based, subjects do not need to be alike. Instead, they can be decoupled and disassociated. The doctrines of *intra* versus *ultra vires* of government agents always required case-by-case discretionary judgment. Similarly, whether an act or a series of them was *de iure imperii* or de *iure gestionis* was always a hard case to solve. In cyberspace, insisting on such categories leads to losing the narrative plot when we analyze a case or policy trend where algorithms have become party to governance decisions in ways that cannot be fully traced. Thus, the non-human and a-human actors provide a 'ruling' of their own, i.e., a decisive role in the creation of communities, cultures and expressions in cyberspace. Or, in a Lacanian sense, we may say that the uncanny valley oscillates between the a-legality of the Real and the plurality of the laws of reality.[94]

What is less apparent is that cyberspace, as it has evolved, has given rise to a new community, complete with citizenships, territories, markets, rights and ethical obligations. Furthermore, this community is now also operated and driven by Morian non-human, less-than-human and more-than-human actors, in a new type of plural jurisdiction. An inter-, trans-, supra- and a-national juridical uncanny valley has emerged through the encounter of the many laws and dwellers of cyberspace. This reality does not rely on the taken-for-granted assumptions from the analogue world. The emerging territories and subjectivities still operate under more or less anthropocentric biases and the inherent flaws and biases of human beings are programmed into AI and thus repeated and perpetuated. Even so, the fact remains that a paradigm shift has occurred: international law has met its double, and the uncanny feeling of anxiety is real. This also means that ours is a hopeful time of analysis, reflexivity and change.[95]

No doubt spurred on by the pandemic, we now live ever more data-intensive and data-infused lives.[96] States, juridical and natural persons all use smart objects and enhance biological organisms with synthetic and technological

93 For digital doubles, see e.g., J. Käll, *Posthuman Property and Law: Commodification and Control through Information, Smart Spaces and Artificial Intelligence* (Routledge, Abingdon, 2022).

94 Aristodemou (2014b) *supra* note 3, p. 50; Lindahl, *supra* note 4.

95 Aristodemou (2014b), *supra* note 3, p. 132.

96 See e.g., R. Kitchin, 'Big data, new epistemologies and paradigm shifts', 1 *Big Data And Society* (2014), doi: https://doi.org/10.1177/2053951714528481; R. Kitchin, 'Making sense of smart cities: addressing present shortcomings', 8 *Cambridge Journal of Regions, Economy and Society* (2015) pp. 131–136, doi: https://doi.org/10.1093/cjres/rsu027.

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layers.[97] The self and the territory are being changed, augmented and embedded in this new community, one that is unlike the nations or notions we recognise from law and legal concepts – such as jurisdiction and legal subjectivity.

The traditional criteria for the current capitalist system are the possession of international rights, duties and the capacity to bring claims in international tribunals; these entail the capacity to enter into international legal treaty relations and immunity from national jurisdictions. Which of these capacities can or should a decision-making or decision-supporting non-human agent have? International life has long been a multi-stakeholder circus in which states, sub-state entities and international organisations in their own interest work with, through and alongside public, private and hybrid organisations and powerful individuals without asking for formal, constitutional delegations of legal powers or capacities. Legal pluralism on the international plane is well known.[98] The power of the Catholic Church, the crusades, the infamous trading companies of the Dutch, the British and others, the present situation of the climate, the deep seabed, the cyberspace regimes in which public, private and hybrid multiple stakeholders share in governance rights, duties and capacities provide further examples.

So, has something new occurred in international law's uncanny valley, or is it as it always has been? A patchwork of uncanny dwellers and normativities of the Real and of reality – a valley of the shadow of death for some while not for others? A 'formal equality between states' always being part of the uncanny colonial nomenclature? The list of well-known already-uncanny in international law – of the 'almost-not-just-not-quite' – can go on. What we can say with certainty is that there is at least no inherent need to gatekeep the class of subjecthood and jurisdiction as the importance of actors otherwise to the modern state grows and their dwellings become increasingly virtual.

6 Conclusion

We embarked on the writing of this article by asking what the encounter between, on the one hand, international law and, om the other hand, the dwellers, subjects, objects, persons, non-persons and hybrids of frontier technologies in cyberspace brings forth in terms of subjectivities, a plurality of normativities as well as the 'uncanny' in international law's encounter with its

97 Arvidsson (2020), *supra* note 16; Heathcote, *supra* note 9; Noll, *supra* note 6.

98 Kleinhans and Macdonald, *supra* note 4; P. Zumbansen, 'Transnational Legal Pluralism', *Transnational Legal Theory* (Abingdon, Routledge, 2010).

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'double', or 'Other'. Through examining cyberspace 'Otherwise', its algorithmic non-human decision-makers, and other non-human agents, we now begin to arrive at a conclusion.

In our reading, critical legal pluralism invites us international legal scholars to focus on international law's subjects. In this article, it has meant that we have ventured beyond monism/dualism to embrace the 'uncanny' – *das Unheimliche* – familiar in the strange and strange in the familiar. We have ventured to do so without conflating or subsuming the 'Other' to already established categories of international legal jurisdictions or established subjectivities in doctrinal international law. Rather than identifying new territories and entities to which international law can (or cannot) be applied we have focused on what can be learned about international law from its encounter with frontier technologies.

Drawing on Mori's theory of an 'uncanny valley' of proximity and affinity, as well as on international law and psychoanalytic scholarship, we have identified international law's uncanny valley as two related things. *First*, we have been able to say that the uncanny – brought out in the encounter with the 'Other' through frontier technology in the form of the algorithm, and the cyber dwellers – is not the 'Other'. Although the 'new' is always a bit frightening, this is not what the uncanny is about: neither in Mori's nor in Freud's understanding. Instead, the eerie feeling and the international lawyer's anxiety-driven impulse to subsume frontier technologies and non-human dwellers of cyberspace is about the recognition – brought out by the encounter with the 'Other' – that there is something strange and unfamiliar *within international law itself*. At international law's own core there is what Aristodemou observes as the "hidden and obscene underside of all exercise of power".[99] This is, in Sara Ramshaw's words, international law's hidden secret – a secret hidden in plain sight – that there is no secret to international law: there is no origin, and there is no core.[100] Instead of a core there is a lack.

Second, critical legal pluralism challenges international law to face up to the existence of the multiplicity of entities in its uncanny valley. This is a site of inter- and transnational laws, national and a-national law, as well as a-legality and non-law.[101] And, of course, a range of dwellers. While international law has always been seeking to expand to new frontiers, adapting to and ordering new global realities, the development of cyberspace's actors and dwellers has brought on new challenges and heightened old ones. Here, we have argued

99 Aristodemou (2014a), *supra* note 3.
100 Ramshaw, *supra* note 20; Arvidsson (2022), *supra* note 20.
101 Johns, *supra* note 82; Lindahl, *supra* note 4.

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that in the automated algorithmic decision-making taking place in cyberspace by frontier technology non-human actors confront international law with the Lacanian Real. In the 'uncanny valley' of this confrontation the 'Other' of cyberspace cannot be subsumed into the categories or made to serve the terminology of international law. In very concrete international legal terminology, this is a state-of-the-art of legal debates struggling to expand international law's human-centred subject categories – in IHRL, IHL and ICL – to cyberspace frontier technology entities and phenomena. For the most part, these debates are caught up in an almost-but-not-quite uncanny, as the frontier of technology is always on the move – and thus, the valley is not one from which international law can simply exit.

Who or what is granted legal subjectivity in international law, and on the basis of what territory (or territorial claim), has historically never been a straightforward question. That is not going to change anytime soon. In international law's uncanny valley, that question is brought to the fore. The uncanny valley forces international law and its scholarship to ask whether subjects need to be tied to a/any national territory in order to be bearers of rights. At the same time, the valley urges us to tear up many of, not to say all, the legal tools we have come to know and rely on so far. Capitalist, patriarchal, colonial, nationalist as they may be, but at least we are used to them. In psychoanalytical terms, the uncanny valley is the situation in which international law is forced to face the lack within herself and to experience a strike of the Real. Instead of constantly craving the subsummation of the 'Other', Aristodemou provides us with a clear and deceivingly simple 'cure'. International law must "get over itself":

> the message from the (nasty) Lacanian analyst is not to cure the patient's ego and return it to her well adjusted to reality – in other words, not to strengthen and perpetuate international law's self-delusions but to lead it, kicking and screaming no doubt, to finding out the bloody histories that constituted it as a subject and enable it, in short, to 'get over itself'.[102]

Can international law 'get over itself' and its contstant anxiety in the face of a plurality of laws and 'Others' in cyberspace? Can it embrace being struck by the Real and having its secret made public in the uncanny valley? And can it get over the fact that cyberspace and its dwellers will continue to exist as continuously and fluidly almost-but-not-quite subjects as neither either/or, regardless of a dual/monist international legal order? Can it extend and bend

102 Aristodemou (2014a), *supra* note 3, p. 37.

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its recognition of legal subjects beyond fraternal recognition and embrace a critical pluralist legal order? If so, we believe that there is no reason for any of us to dwell in this anxiety. Instead, we can embrace the uncanny valley as a unique place for exploring, understanding, analysing and reworking international law – in its encounter with its 'Other'.

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