



Articles



Towards a Human Right to Psychological Continuity? Reflections on the Rights to Personal Identity, Self-Determination, and Personal Integrity

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Abstract

Scholars from different disciplines are increasingly debating how human rights should protect the autonomy not only over our bodies but also over our minds. These debates are often driven by emerging technologies that appear able to access, monitor, and manipulate mental states in ways that were previously inconceivable. Whereas some human rights already protect certain personal interests in the mental realm, such as the right to freedom of thought, it has been argued that new or updated human rights are necessary to offer adequate protection against modern technologies that may threaten our mental privacy, personal integrity, and identity. One of the proposed rights, which is under consideration by the Council of Europe and the UN Human Rights Council, concerns a right to ‘psychological continuity’. This paper challenges the necessity of recognising such a right, arguing that the notion of psychological continuity already receives considerable protection within the established framework of human rights law.

Keywords

neurorights – personal identity – psychological continuity – bodily and mental integrity

1 Introduction

Since recent years, scholars from different disciplines, including law, philosophy, and neuroscience, are increasingly debating how human rights should protect the autonomy not only over our bodies but also over our minds.¹ This debate is often driven by developments in neuroscientific and digital technologies, such as brain-computer interfaces, brain stimulation, facial emotion detection with artificial intelligence, and microtargeting in advertisements and political campaigns.² These emerging techniques appear able to access, monitor, and manipulate mental states in ways that were previously inconceivable. They raise novel questions about how human rights law should protect the intimate, *mental* aspects of life, such as what we think, hope, prefer, dream of, feel, and who we are. Whereas some human rights already protect certain personal interests in the mental realm, such as the right to freedom of thought,³ it has been argued that new or updated human rights are necessary to offer adequate protection against emerging technologies that threaten the last fortresses of privacy, personal integrity, and identity: our brains and minds.⁴ Sometimes, these proposed human rights are referred to

1 N Farahany, *The Battle for Your Brain: Defending the Right to Think Freely in the Age of Neurotechnology* (St Martin's Press 2023); S Ligthart and others, 'Minding Rights: Mapping Ethical and Legal Foundations of 'Neurorights'' (2023) 15 *Cambridge Quarterly of Healthcare Ethics* 1; P López-Silva and L Valera, *Protecting the Mind* (Springer 2022); M Ienca and R Andorno, 'Towards New Human Rights in the Age of Neuroscience and Neurotechnology' (2017) 13 *Life Sciences, Society and Policy* 1; C Bublitz and R Merkel, 'Crimes Against Minds: On Mental Manipulations, Harms and a Human Right to Mental Self-Determination' (2014) 8 *Criminal Law and Philosophy* 51.

2 For an exhaustive overview, see Farahany (n 1).

3 P O'Callaghan and B Shiner, *The Cambridge Handbook of the Right to Freedom of Thought* (Cambridge University Press 2024) (forthcoming); S Ligthart and others, 'Rethinking the Right to Freedom of Thought: A Multidisciplinary Analysis' (2022) 22 *Human Rights Law Review* 1.

4 Ienca and Andorno (n 1); Farahany (n 1); R Yuste, J Genser, and S Hermann, 'It's Time for Neuro-Rights' (2021) 18 *Horizon* 154; S Goering and others, 'Recommendations for Responsible Development and Application of Neurotechnologies' (2021) 14 *Neuroethics* 365; J Genser, S Hermann, and R Yuste, *International Human Rights Protection Gaps in the Age of Neurotechnology* (Neurorights Foundation 2022).

as ‘neurorights’.⁵ They include a right to psychological continuity, cognitive liberty, mental integrity, and mental privacy.⁶

Although some legal scholars have challenged the necessity of creating novel human rights for the mind,⁷ the idea of protecting ‘neurorights’ has now reached the agendas of the higher official institutions, including the Human Rights Council of the United Nations (Human Rights Council),⁸ the Council of Europe,⁹ the Organization of American States,¹⁰ the United Nations Educational, Scientific, and Cultural Organisation (UNESCO),¹¹ and the Organisation for Economic Co-operation and Development (OECD).¹² For example, the Human Rights Council has recently adopted a resolution on neurotechnology and human rights.¹³ In that regard, it has requested the Advisory Committee to examine the impact, opportunities, and challenges of neurotechnology for the promotion and protection of human rights, and to produce recommendations on how these opportunities, challenges, and potential gaps in human rights law could best be addressed by the Council. Among other things, the Advisory Committee considers the importance of human rights protection of mental privacy, mental integrity, cognitive liberty, and psychological continuity.¹⁴

5 See, for example, the website of the NeuroRights Foundation: <<https://neurorightsfoundation.org>>.

6 See n 4. See also Lighthart and others (n 1).

7 For example, S Lighthart, C Bublitz, and S Alegre, ‘Neurotechnology: We Need New Laws, Not New Rights’ (2023) *Nature* 950.

8 United Nations Human Rights Council, ‘Neurotechnology and Human Rights’ (29 September 2022) A/HRC/51/L.3; United Nations Human Rights Council Advisory Committee, ‘Report of the Advisory Committee on its Twenty-Eight Session’ (7 September 2022) A/HRC/AC/28/2, Annex III, Part II Assessing the Human Rights Impact of Neurotechnology: Towards the Recognition of Neurorights; United Nations Human Rights Council Advisory Committee, ‘Draft Report on Impact, Opportunities and Challenges of Neurotechnology with Regard to the Promotion and Protection of All Human Rights’ (23 February 2024) A/HRC/AC/31/CRP.1.

9 Committee on Bioethics of the Council of Europe, ‘Strategic Action Plan on Human Rights and Technologies in Biomedicine (2020–2025)’ (29 November 2019) DH-BIO(2018) 22 FINAL; M Ienca, ‘Common Human Rights Challenges Raised by Different Applications of Neurotechnologies in the Biomedical Field’ (Council of Europe, 2021).

10 Declaration of the Interamerican Juridical Committee on Neuroscience, Neurotechnologies and Human Rights: New Legal Challenges for the Americas (11 August 2021) CJI/DEC. 01 (XCIX-O/21).

11 Report of the International Bioethics Committee of UNESCO, ‘Ethical Issues of Neurotechnology’ (15 December 2021) SHS/BIO/IBC28/2021/3Rev.

12 Organisation for Economic Co-operation and Development, ‘Recommendation on Responsible Innovation in Neurotechnology’ (11 December 2019) OECD/LEGAL/0457.

13 A/HRC/51/L.3 (n 8).

14 A/HRC/AC/28/2 (n 8); A/HRC/AC/31/CRP.1 (n 8).

Likewise, in November 2019, the Council of Europe launched a Strategic Action Plan on Human rights and Technologies in Biomedicine (2020–2025). One of the concrete action points concerns an assessment of the relevance and sufficiency of existing human rights in view of emerging threats posed by neurotechnology:

Applications in the field of neurotechnology raise issues of privacy, personhood, and discrimination. It therefore needs to be assessed whether these issues can be sufficiently addressed by the existing human rights framework or whether new human rights pertaining to cognitive liberty, mental privacy, and mental integrity and psychological continuity, need to be entertained in order to govern neurotechnologies. Alternatively, other flexible forms of good governance may be better suited for regulating neurotechnologies.¹⁵

In October 2021, a comprehensive report was published in this respect, concluding that the protection of mental privacy, mental integrity, and the prevention of external manipulation of internal mental states, is ‘insufficiently specified in current human rights instruments’, such as the Universal Declaration of Human Rights (UDHR)¹⁶ and the European Convention on Human Rights (ECHR or Convention).¹⁷

As briefly alluded to above, the necessity of new and specific human rights for the mind has been challenged, particularly by legal scholars.¹⁸ One of the central arguments against the recognition of specific ‘neurorights’ is that most of the proposed rights are already covered by the established framework of human rights law. Creating new ‘neurorights’ would be repetitive of existing

¹⁵ DH-BIO(2018) 22 FINAL (n 9) 7.

¹⁶ Universal Declaration of Human Rights (adopted 10 December 1948) UNGA Res 214 A(III) (UDHR).

¹⁷ Ienca (n 9) 72. Proposing a normative reform, either through adaptive interpretation of existing rights or through addition of new rights.

¹⁸ JC Bublitz, ‘Neurotechnologies and Human Rights: Restating and Reaffirming the Multi-Layered Protection of the Person’ (2024) *The International Journal of Human Rights* 26; S Ligthart, *Coercive Brain-Reading in Criminal Justice: An Analysis of European Human Rights Law* (Cambridge University Press 2022); S Alegre, *Freedom to Think: Protecting a Fundamental Human Right in the Digital Age* (Atlantic Books 2022); T Istace, ‘Human Rights Law: An Incomplete but Flexible Framework to Protect the Human Mind Against Neurotechnological Intrusions’ (2024) *Law, Innovation and Technology* 1; N Hertz, ‘Neurorights – Do We Need New Human Rights?’ (2023) 16 *Neuroethics* 5; S Michalowski, ‘Critical Reflections on the Need for a Right to Mental Self-Determination’, in *The Cambridge Handbook of New Human Rights*, A Von Arnould, K Von der Decken, and M Susi (eds), (Cambridge University Press 2020) 404.

human rights and bear the risk of rights inflation. For instance, it has been argued that a right to mental privacy is covered by the general right to privacy and by the freedom of expression.¹⁹ The right to freedom of thought is considered able to protect cognitive liberty,²⁰ and a right to mental integrity is explicitly guaranteed, for instance, by Article 3 of the Charter of Fundamental Rights of the European Union,²¹ and is also protected by the broader right to respect for private life such as guaranteed by Article 8 of the European Convention on Human Rights.²²

Meanwhile, whether and to what extent a right to *psychological continuity* is covered by, or could be derived from existing human rights law, has hitherto barely received any scholarly attention.²³ Nevertheless, this right is often referred to in debates on human rights protection of the mind, also in the recent projects of the Council of Europe and the Human Rights Council. This paper aims to clarify the current human rights protection of a person's psychological continuity. It will argue that the notion of psychological continuity receives considerable protection within the existing framework of human rights. From that perspective, the creation of a new, specific human right to psychological continuity would be unnecessary. Meanwhile, there is a need for conceptual clarification about the meaning and scope of those human rights relevant to the protection of psychological continuity, and about how these rights (should) relate to each other and, more broadly, to the legal protection of the human mind.

The outline of this paper is as follows. First, I will discuss the arguments for developing a right to psychological continuity, i.e., what the right should consist of and how it is grounded in one specific, moral philosophical conception of personal identity. Next, I examine how a right to psychological continuity

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- 19 S Lighthart, 'Mental Privacy as Part of the Human Right to Freedom of Thought?', in *The Law and Ethics of Freedom of Thought*, vol 2, M Blitz and C Bublitz (eds), (Palgrave MacMillan) (forthcoming); S Lighthart and others, 'Forensic Brain-Reading and Mental Privacy in European Human Rights Law' (2021) 14 *Neuroethics* 191. See also D Susser and L Cabrera, 'Brain Data in Context: Are New Rights the Way to Mental and Brain Privacy?' (2023) *AJOB Neuroscience* 1.
- 20 Hertz (n 18); C Bublitz, 'Cognitive Liberty or the International Human Right to Freedom of Thought', in *Handbook of Neuroethics*, J Clausen and N Levy (eds), (Springer 2014) 1309.
- 21 Charter of Fundamental Rights of the European Union [2000] OJ C364/01. See also American Convention on Human Rights (adopted 22 November 1969, entered into force 18 July 1978) 1144 UNTS 123 (ACHR) Article 5(1) and United Nations Convention on the Rights of Persons with Disabilities (adopted 30 March 2007, entered into force 3 May 2008) (CRPD) Article 17.
- 22 Lighthart and others (n 1); Michalowski (n 18).
- 23 Ienca and Andorno (n 1); F Gilbert, M Ienca, and M Cook, 'How I Became Myself After Merging With a Computer: Does Human-Machine Symbiosis Raise Human Rights Issues?' (2023) 16 *Brain Stimulation* 783.

relates to and is covered by, respectively, (1) the right to personal identity, (2) the right to self-determination, and (3) the right to personal integrity, followed by a brief discussion and conclusion. Whereas the primary focus of this paper is on the ECHR, some parts of the analysis may equally apply to other human rights instruments that are currently under review in light of emerging neurotechnology, such as the International Covenant on Civil and Political Rights (ICCPR)²⁴ and the American Convention on Human Rights (ACHR).²⁵

2 The Proposed Right to Psychological Continuity

2.1 *Towards Human Rights Protection for the Mind: A Right to Psychological Continuity*

Since the turn of the millennial, lawyers and ethicists have been debating the legal and moral implications of emerging digital and neurotechnologies that make our mental lives tangible and transparent in ways that were previously inconceivable.²⁶ One specific concern in this debate is whether existing human rights, established in the mid-1900s, will be able to address these novel challenges raised by emerging technologies – challenges that the ‘founding fathers’ of these human rights could not have envisaged.²⁷ Some authors have argued that established human rights, such as the right to respect for private life, the freedom of thought, and the freedom of expression, are well-equipped to address these challenges, offering robust protection against emerging technologies that threaten the autonomy over our personal mental states.²⁸ Meanwhile, others contend that existing human rights may in fact be insufficient to adequately respond to these (neuro)technological threats of the 21st century and beyond.²⁹

24 International Covenant on Civil and Political Rights (adopted 16 December 1996, entered into force 23 March 1976) 999 UNTS 171 (ICCPR).

25 ACHR (n 21).

26 RG Boire, ‘On Cognitive Liberty’ (1999) 1 *Journal of Cognitive Liberties* 7; W Sententia, ‘Neuroethical Considerations: Cognitive Liberty and Converging Technologies For Improving Human Cognition’ (2004) 1013 *Annals of the New York Academy of Sciences* 221.

27 Bublitz and Merkel (n 1); Ienca and Andorno (n 1).

28 See n 18.

29 See n 4.

For example, in a recent report by the NeuroRights Foundation, which is referred to in the work of the Advisory Committee of the Human Rights Council,³⁰ Yuste, Genser, and Herrmann conclude that:

existing international human rights treaties are currently unprepared to protect neurorights. Nevertheless, [...] rapid advances in neurotechnology are no longer science fiction – they are science. It is urgent that the UN play a leading role globally to embrace these exciting innovations while protecting human rights and ensuring the ethical development of neurotechnology.³¹

Among other things, the authors argue that of all potential ‘neurorights’, the right to identity is, today, ‘worst protected’ within the current framework of human rights.³² Whereas this claim is, at best, doubtful,³³ others have delivered more serious and comprehensive arguments and proposals to strengthen the protection of personal identity in view of emerging (neuro)technology.³⁴ One of those proposals comes from Ienca and Andorno, who have argued for the recognition of a human right to *psychological continuity*.³⁵ As mentioned in section 1, the Committee on Bioethics of the Council of Europe and the Advisory Committee of the Human Rights Council have now also alluded to the potential relevance of protecting such a right.³⁶

In their influential article ‘Towards New Human Rights in the Age of Neuroscience and Neurotechnology’, Ienca and Andorno make a case for reinforcing human rights protection of the mind. Among other things, the

30 A/HRC/AC/28/2 (n 8) 10: ‘In a recent report, the NeuroRights Foundation called upon the United Nations Organization to play a leading role globally in embracing these innovations while protecting human rights and ensuring the ethical development of neurotechnology.’ See also A/HRC/AC/31/CRP.1 (n 8).

31 Genser, Herrmann, and Yuste (n 4) 50.

32 Ibid 8.

33 See, for example, J Marshall (ed), *Personal Identity and the European Court of Human Rights* (Routledge 2022); P Tiedemann (ed), *Right to Identity: Proceedings of the Special Workshop “Right to Identity” Held at the 27th World Congress of the International Association for Philosophy of Law and Social Philosophy in Washington DC* (Franz Steiner Verlag 2015). For a critical reflection on the report of the NeuroRights Foundation, see S Lighthart and C Bublitz, ‘Are New Human Rights Needed for Neurotechnologies?’ (Neuroethics & Law Blog, 6 March 2022): <https://kolber.typepad.com/ethics_law_blog/2022/06/are-new-human-rights-needed-for-neurotechnologies-by-lighthart-bublitz.html>.

34 For example, F Jotterand, *The Unfit Brain and the Limits of Moral Bioenhancement* (Springer 2022); Goering and others (n 4).

35 Ienca and Andorno (n 1).

36 See n 8 and n 9. Cf SHS/BIO/IBC28/2021/3Rev. (n 11) para III.1.2.

authors defend the recognition of a right to psychological continuity, either as a new right or as a reinterpretation of existing rights.³⁷ When doing so, they point to emerging technologies and techniques that enable the stimulation and modulation of human brain functions. An example is transcranial direct current stimulation (tDCS), which delivers a constant low current to specific brain areas via electrodes on the scalp in order to modulate brain functioning. Other examples to which the authors refer are deep brain stimulation (DBS) and transcranial magnetic stimulation (TMS). Brain modulating techniques like these are being used in day-to-day medical practices, for example, to treat neural disorders such as Parkinson's disease and epilepsy. Moreover, researchers are increasingly examining the possibilities brain stimulation may offer beyond the context of ordinary medicine, for instance, to reduce aggressiveness in certain forensic populations.³⁸ Furthermore, Ienca and Andorno point to the context of the military and intelligence agencies, where (potential) human rights violations have been reported in relation to experiments involving brain electrodes, psychoactive drugs, hypnosis, and brainwashing.³⁹

Ienca and Andorno emphasise that changing a person's brain functioning through emerging neurotechnology might sometimes cause alterations in mental states critical to personality, having the potential to affect the individual's personal identity. One could think, for instance, of cases where patients report not being themselves anymore after or during DBS treatment,⁴⁰ or where patients have reported that treatment with a brain-computer interface 'made me a different person'.⁴¹ Likewise, in a recent study on the normative implications of emerging neurotechnology, adopted by the Executive Board of UNESCO, it is highlighted that:

37 In addition, they propose the recognition of three other human rights, that is, a right to mental privacy, to mental integrity, and a right to cognitive liberty.

38 C Sergiou and others, 'Transcranial Direct Current Stimulation Targeting the Ventromedial Prefrontal Cortex Reduces Reactive Aggression and Modulates Electrophysiological Responses in a Forensic Population' (2022) 7 *Biological Psychiatry: CNNI* 95; R Knehans and others, 'Modulating Behavioural and Self-Reported Aggression with Non-Invasive Brain Stimulation: A Literature Review' (2022) 12 *Brain Sci.* 1.

39 A Ross, 'Ethics of CIA and Military Contracting by Psychiatrists and Psychologists' (2007) 9 *Ethical Human Psychol Psychiatry* 25. See also JM Rickli and M Ienca, 'The Security and Military Implications of Neurotechnology and Artificial Intelligence', in *Clinical Neurotechnology Meets Artificial Intelligence: Advances in Neuroethics*, O Friedrich and others (eds), (Springer 2021) 197.

40 See, for example, F Gilbert and others, 'I Miss Being Me: Phenomenological Effects of Deep Brain Stimulation' (2017) 8 *AJOB Neuroscience* 2017 96; M Schüpbach, 'Neurosurgery in Parkinson Disease: A Distressed Mind in a Repaired Body?' (2006) 66 *Neurology* 1811.

41 Gilbert, Ienca, and Cook (n 23) 786.

Neurotechnology could also possibly alter personal identity. For example, through memory modification techniques individuals may choose to alter the content of a memory, and therefore modify personal identity. Deep Brain Stimulation (DBS) which allows individuals to regain autonomy in movements can also pose a threat to an individual's authentic self, as the mind can be disoriented by the active presence of a technical device.⁴²

Moreover, it has been stressed in the literature that the increased knowledge and technological developments in the field of neuroscience offer new and more efficient possibilities for inducing *unconsented* personality changes. For example, brain implants such as DBS bear the risk of being hacked by third parties, aiming to exert malicious control over the user's brain activity.⁴³ In view of the increasing developments in brain stimulation technology and the accompanied normative concerns, Ienca and Andorno argue for the recognition of a right to psychological continuity, which:

ultimately tends to preserve personal identity and the coherence of the individual's behavior from unconsented modification by third parties. It protects the continuity across a person's habitual thoughts, preferences, and choices by protecting the underlying neural functioning.⁴⁴

In a recent report commissioned by the Committee on Bioethics of the Council of Europe, it is stated that a human right to psychological continuity would offer solid normative ground to preserve a person's self-determination and sense of personal identity from subconscious manipulation.⁴⁵ The report emphasises that a right to psychological continuity:

42 UNESCO, 'Preliminary Study on the Technical and Legal Aspects Relating to the Desirability of a Standard-Setting Instrument on the Ethics of Neurotechnology' (6 April 2023) 216 EX/9, para 7.

43 Ienca and Andorno (n 1) 21; Farahany (n 1) 109 et seq; L Pycroft and others, 'Brainjacking: Implant Security Issues in Invasive Neuromodulation' (2016) 92 *World Neurosurgery* 454; M Ienca and P Haselager, 'Hacking the Brain' (2016) 18 *Ethics and Information Technology* 117; J Pugh and others, 'Brainjacking in Deep Brain Stimulation and Autonomy' (2018) 20 *Ethics and Information Technology* 219. See also: United Nations Special Rapporteur on Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, 'Report on Psychological Torture and Ill-Treatment' (20 March 2020) A/HRC/43/49, 31–32.

44 Ienca and Andorno (n 1) 21.

45 Ienca (n 9) 61.

may become particularly important in the context of national security and military research, where neurotechnology applications that modulate personality traits (e.g., neurostimulation techniques) are currently being tested for combatant enhancement and other strategic purposes, e.g., to increase the ability of soldiers and other military personnel to perform with motivation and determination even under stress or in the absence of sleep.⁴⁶

Whereas ‘psychological continuity’ may ring a bell among ethicists and philosophers, it is not a term that human rights law is typically familiar with. As the report for the Committee on Bioethics of the Council of Europe explains, this terminology is borrowed from a specific moral philosophical understanding of personal identity.⁴⁷ It is grounded in the psychological-continuity account of personal identity.⁴⁸ To better understand the meaning, scope, and (potential) legal implications of a right to psychological continuity, the next section briefly considers the psychological-continuity account of personal identity.

2.2 *The Psychological-Continuity Account of Personal Identity*

Different philosophical understandings exist of the concept of personal identity. This section considers one specific understanding that grounds the proposed right to psychological continuity, so as to better understand the potential meaning and scope of this right. It does so without making any claims about which theoretical account of identity is or should be most relevant to human rights law more generally.

One of the most famous and influential accounts of personal identity has been developed by John Locke.⁴⁹ In his ‘Essay Concerning Human Understanding’, Locke discusses a relational account of numerical identity.⁵⁰ Such relational accounts maintain that persons at different times are identical

46 Ibid 62. See also Rickli and Ienca (n 39).

47 Ienca (n 9) 61, referring to P Van Inwagen, ‘Materialism and the Psychological-Continuity Account of Personal Identity’ (1997) 11 *Philosophical Perspectives* 305. See also SHS/BIO/IBC28/2021/3Rev. (n 11) para III.1.2.

48 Gilbert, Ienca, and Cook (n 23) 87.

49 For a consideration of this account see, for example, M Schechtman, *Staying Alive: Personal Identity, Practical Concerns, and the Unity of a Life* (Oxford University Press 2014) 10; D DeGrazia, *Human Identity and Bioethics* (Cambridge University Press 2005) 13.

50 J Locke, ‘Of Identity and Diversity’, in *Essay Concerning Human Understanding*, J Locke (ed), (Oxford University Press 1694).

to one another in virtue of some psychological or physical relation between them.⁵¹ They concern the question of whether, for instance, Paul at the age of 64 is the same person as Paul at the age of 23. Locke's understanding of personal identity appeals to a specific *psychological* relation that is essential to the preservation of personal identity. It appeals to the idea of self-reflective consciousness. He argues that a person's persisting consciousness is essential for that person to continue to exist. As Shoemaker phrases it, in Locke's view, 'a person – a moral agent – Y at t_2 is identical to a person X at t_1 when Y 's consciousness "can be extended backwards" to X , and this is typically taken to mean that Y remembers X 's thoughts and experiences'.⁵²

Locke's conception of personal identity has, however, faced various theoretical objections.⁵³ For example, one of the objections is that on Locke's view, a person will lose their identity each time they lose consciousness, like when they fall asleep. Trying to avoid these objections, one of the most popular views of personal identity in contemporary philosophy is a (significantly) amended version of Locke's memory criterion – that is: a *psychological-continuity* account of personal identity.⁵⁴ Such a view on personal identity incorporates more psychological features than just memory into the identity-preserving relation between two people at different times. It includes, for instance, also the present-past and present-future psychological connections to ourselves in terms of intentions fulfilled in action, goals, beliefs, desires, and similarity of character.⁵⁵ One of the most influential psychological-continuity accounts has been developed by Derek Parfit, maintaining that for X and Y to be the same person at different times, there must be an overlapping chain of enough – that is, *strong* – psychological connectedness between X today and Y sometime in the past or future.⁵⁶ For instance, to say that X now is the same person as Y 20 years ago, this would require that between X today and Y at that time, there has been, each day in relation to the previous one, a strong chain of overlapping psychological features like desires, beliefs, and intentions. Such an overlapping chain of strong psychological connectedness across time, is what Parfit calls *psychological continuity*.⁵⁷ According to Parfit, there is enough, i.e.

51 D Shoemaker, 'Personal Identity and Ethics', in *The Stanford Encyclopedia of Philosophy*, EN Zalta (ed), (Fall 2021) para 1.

52 Ibid.

53 See n 49.

54 DeGrazia (n 49) 15. See, for example, D Shoemaker, 'Persons and Their Pasts' (1970) 7 *American Philosophy Quarterly* 269; D Parfit, *Reasons and Persons* (Oxford University Press 1984).

55 Ibid.

56 Parfit (n 54) 206.

57 Ibid.

strong connectedness, 'if the number of connections, over any day, is *at least half* the number of direct connections that hold, over every day, in the lives of nearly every actual person.'⁵⁸

In moral philosophy, the psychological-continuity account of identity is often distinguished from a biological and a narrative view on identity.⁵⁹ Very briefly, instead of the idea that identity depends upon the continuity of *psychological* connections to oneself, a biological view holds that identity consists in the continuity of *physical* relations; the continuity of being the same biological organism across time.⁶⁰ This view holds that what really determines our essence is our existence as a biological entity.⁶¹ Meanwhile, narrative identity concerns the (characterisation) question of which beliefs, values, desires, and other psychological features make someone the person she is.⁶² The answer to this question is to be found in the narratives that people tell about themselves to make sense of who they are. Unlike the psychological-continuity account and the biological view, narrative identity is not about the person's essence or metaphysical identity. Rather, on this view, identity is about a psychological unity; about the incorporation of experiences over time into an evolving self-told story about a person's sense of self.⁶³ It is concerned with the kind of identity that is typically at stake when people have an identity crisis. As Pugh describes, on the narrative view, identities are inherently dynamic, as individuals constantly change and evolve, while making sense of themselves by reconciling these changes into a coherent self-narrative.⁶⁴

The psychological-continuity account of Parfit has been widely discussed in the literature on modifying neural and mental states through brain modulation such as DBS.⁶⁵ The central concern, then, is that emerging neurotechnology has the ability to modify psychological features essential to the continuity of a person; that neurotechnology is able to induce profound changes to different

58 Ibid.

59 See n 49; J Pugh, 'Clarifying the Normative Significance of 'Personality Changes' Following Deep Brain Stimulation' (2020) 26 *Science and Engineering Ethics* 1655, 658 et seq.

60 M Schechtman, 'Personal Identity', in *Routledge Encyclopedia of Philosophy* (2011) para 7; See, for example, ET Olson, *The Human Animal: Personal Identity Without Psychology* (Oxford University Press 1997).

61 For instance, according to this view, someone who falls into a vegetative state continues to exist as a *human being*, while, according to the psychological-continuity approach, one would cease to exist as a *person*: Schechtman (n 60) para 7.

62 M Schechtman, *The Constitution of Selves* (Cornell University Press 1996); M Schechtman, 'The Narrative Self', in *The Oxford Handbook of The Self*, S Gallagher (ed), (Oxford University Press 2011) 394.

63 Ibid.

64 Pugh (n 59) 1662.

65 Ibid 1659.

psychological relations we hold to ourselves, so as to destroy our numerical identity and make us become another person.⁶⁶ For example, Holmen writes that some mental features central to psychological continuity – such as preferences, desires, beliefs, and memories – seem already malleable through both pharmaceutical and neurotechnological means.⁶⁷ For instance, Holmen refers to a study that found that downregulating brain activity in a specific brain area by non-invasive TMS was able to alter the person's political and religious beliefs.⁶⁸

Likewise, Klaming and Haselager discuss a study about a patient suffering from Tourette's Syndrome who received DBS.⁶⁹ Although the treatment was successful, 12 months after the operation it turned out that when the amplitude of the brain stimulation was increased, the patient developed an alternate, childish identity state. When the amplitude of the stimulation was decreased again, the patient's responses came back to 'normal' and he was unable to recall what exactly had happened during the increased stimulation of his brain.⁷⁰ As Klaming and Haselager argue, cases like these demonstrate that DBS has the ability to disrupt psychological continuity through disconnecting a person's memory, thereby affecting one's personal identity.⁷¹ In the same vein, Vincent has argued that there are 'non-insignificant grounds to worry that direct brain interventions which implement large-scale changes in one fell swoop could sever psychological continuity.'⁷² She emphasises that 'mounting empirical evidence substantiates the worry that direct brain interventions might have adverse effects on such things as authenticity and personal identity by significantly altering character and personality.'⁷³

Meanwhile, others have challenged the assumption that neurotechnological brain modulation is (already) able to induce such global and radical effects on a person's psychological functioning, so as to threaten a sufficient number of

66 Ibid.

67 SJ Holmen, 'A Note on Psychological Continuity Theories of Identity and Neurointerventions' (2022) 48 *Journal of Medical Ethics* 743–744.

68 C Holbrook and others, 'Neuromodulation of Group Prejudice and Religious Belief' (2016) 11 *Social Cognitive and Affective Neuroscience* 387.

69 L Klaming and P Haselager, 'Did My Brain Implant Make Me Do It?' (2013) 6 *Neuroethics* 527, 530.

70 I Goethals and others, 'Brain Activation Associated With Deep Brain Stimulation Causing Dissociation in a Patient with Tourette's Syndrome' (2008) 9 *Journal of Trauma & Dissociation* 543.

71 Klaming and Haselager (n 69) 530.

72 N Vincent, 'Restoring Responsibility: Promoting Justice, Therapy and Reform Through Direct Brain Interventions' (2014) 8 *Criminal Law and Philosophy* 21, 34.

73 Ibid 30.

psychological connections able to disrupt a person's psychological continuity.⁷⁴ For this reason, Pugh argues that it is far from clear whether a psychological-continuity understanding of identity should be the central concern in normative discussions about brain stimulation and identity.⁷⁵ According to Pugh, '[i]f DBS threatens identity at all, it is far more plausible that it might threaten narrative identity.'⁷⁶

In sum, this section explained how the proposed right to psychological continuity reflects a specific account of personal identity – that is, a psychological-continuity account, maintaining that two persons at different times are one and the same person if and only if strong psychological connections exist between them. Different scholars have argued that emerging neurotechnology is able to disrupt these strong psychological connections to ourselves, and, therefore, threaten personal identity. When defending a human right to psychological continuity, Ienca and Andorno highlight that:

it has been observed that brain stimulation may have an impact on the psychological continuity of the person, i.e. the crucial requirement of personal identity consisting in experiencing oneself as persisting through time as the same person.⁷⁷

As briefly touched upon above, one could object to this claim and the accompanied idea of developing a human right to psychological continuity, by arguing, from a scientific perspective, that neurotechnology is not yet able to disrupt psychological continuity. Furthermore, from a moral philosophical point of view, one may contend that instead of a psychological-continuity account of identity, other understandings of personal identity are likely more appropriate to articulate the normative concerns of neurotechnological brain modulation, such as narrative identity. For example, one could argue that how people *experience* themselves is essential to narrative identity, though not, typically, to identity in the sense of psychological continuity.

Considering these objections is, however, not the primary aim of this paper. Rather, it will challenge the idea of recognising a specific human right to psychological continuity from a legal point of view. While acknowledging the importance of specifying human rights protection to the mind, I will

74 Pugh (n 59) 166l. Cf F Gilbert, JNM Viaña, and C Ineichen, 'Deflating the "DBS Causes Personality Changes" Bubble' (2021) 14 *Neuroethics* 1.

75 Pugh (n 59) 166l. Cf SHS/B10/IBC28/2021/3Rev (n 11) para III.1.2.

76 Ibid. See, for example, M Schechtman, 'Philosophical Reflections on Narrative and Deep Brain Stimulation' (2010) 21 *The Journal of Clinical Ethics* 133.

77 Ienca and Andorno (n 1) 20.

argue that a person's psychological continuity already receives considerable protection within the established framework of human rights law. If emerging neurotechnology appears able to threaten psychological continuity, existing human rights are likely to offer robust protection against non-consensual alterations of this type of personal identity. In what follows, I will consider how a human right to psychological continuity would relate to, consecutively, the right to personal identity, the right to self-determination, and the right to personal integrity.

3 Psychological Continuity and the Rights to Personal Identity and Self-Determination

As Ienca and Andorno write, 'the right to psychological continuity can be seen as a special neuro-focused instance of the right to identity.'⁷⁸ Hence, when examining whether the protection of a person's psychological continuity might be covered by existing human rights, it makes sense to consider, first, the protective scope of the right to personal identity.

Securing peoples' personality and identity has a profound basis in contemporary human rights law.⁷⁹ For example, Article 22 of the UDHR safeguards some essential conditions for dignity and the free development of personality,⁸⁰ Article 17 ICCPR supports the protection of the individual's identity and self-autonomy,⁸¹ and Article 8 of the United Nations Convention on the Rights of the Child recognises the right of children to preserve their identity.⁸² In the Inter-American context, a right to identity has been derived from the right to privacy under Article 11 ACHR.⁸³ In the European context, Article 1 of the Oviedo Convention prescribes that the parties 'shall protect the dignity and identity of all human beings and guarantee everyone, without discrimination, respect for their integrity and other rights and fundamental

⁷⁸ Ibid 21.

⁷⁹ For some critical reflections on the need for a human right to identity, see Tiedemann (n 33).

⁸⁰ See also UDHR (n 16) Articles 26 and 29.

⁸¹ PM Taylor, *A Commentary on the International Covenant on Civil and Political Rights* (Cambridge University Press 2020) 4.

⁸² United Nations Convention on the Rights of the Child (adopted 20 November 1989, entered into force 2 September 1990) 1577 UNTS 3.

⁸³ *Obligaciones Estatales en Relación Con el Cambio de Nombre, la Identidad de Género, Y los Derechos Derivados de un Vínculo Entre Parejas del Mismo Sexo*, Advisory Opinion, Inter-American Court of Human Rights (24 November 2017) para 87. See also Tiedemann (n 33).

freedoms with regard to the application of biology and medicine.⁸⁴ Furthermore, the European Court of Human Rights (ECtHR or Court) has recognised a right to identity under the umbrella right to respect for private life pursuant to Article 8 ECHR.⁸⁵

More specifically, according to the ECtHR, the notion of private life encompasses the ‘right to identity’ and the ‘right to personal development’, either in terms of personality or personal autonomy.⁸⁶ The protection of personal identity has many appearances in the case law of the ECtHR,⁸⁷ ranging from the protection of gender, genetic, and biological identity,⁸⁸ over ethnic and religious identity,⁸⁹ to the protection of social and national identity.⁹⁰

Marshall observes that the case law of the ECtHR reflects, in general, a kind of self-determined and fluid version of identity and personal freedom.⁹¹ It acknowledges ‘the importance of building and retaining an ability and capacity that is each person’s domain, to enable them to think reflectively without interference, to be in control of their own faculties, to decide their own plan of life.’⁹² When considering the ECtHR case law on the right to personal identity, Marshall identifies at least three preconditions of identity formation, relating to our minds, bodies, and their intersubjective relationship within social environments.⁹³

84 Convention for the Protection of Human Rights and Dignity of the Human Being With Regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine (Oviedo Convention).

85 J Marshall, *Human Rights Law and Personal Identity* (Routledge 2016) 36.

86 *Reklos and Davourlis v Greece* 1234/05 (ECtHR, 15 January 2009) para 39. Cf *Basu v Germany* 215/19 (ECtHR, 18 October 2022) para 2; *Breyer v Germany* 50001/12 (ECtHR, 30 January 2020) para 73.

87 DJ Harris and others, *Harris, O’Boyle and Warbirck Law of the European Convention on Human Rights* (Oxford University Press 2023) 521–524; Marshall (n 85); Marshall (n 33); Y Al Tamimi, ‘Human Rights and the Excess of Identity: A Legal and Theoretical Inquiry into the Notion of Identity in Strasbourg Case Law’ (2018) 27 *Social & Legal Studies* 283.

88 For example, *A D and Others v Georgia* 57864/17, 79087/17, and 55353/19 (ECtHR, 1 December 2022) para 48; *Parrillo v Italy* [GC] 46470/11 (ECtHR, 27 August 2015) paras 158–159. See also Marshall (n 85) 89 et seq.

89 For example, *Ciubotaru v Moldova* 27138/04 (ECtHR, 27 April 2010) para 53; *Leyla Şahin v Turkey* [GC] 44774/98 (ECtHR, 10 November 2005) para 104. See also Marshall (n 85) 142 et seq.

90 For example, *sv v Italy* 55216/08 (ECtHR, 11 October 2018) para 54; *Ghoumid and Others v France* 52273/16 and others (ECtHR, 25 June 2020) para 43. See also Tamimi (n 87).

91 J Marshall, *Personal Freedom Through Human Rights Law?* (Brill 2009) 96; Marshall (n 85) 241.

92 Marshall (n 33) 13.

93 Ibid 18–19. See also Marshall (n 85) 237.

Interestingly, these preconditions – especially the one relating to the mind – seem to link very closely to the preservation of, what Parfit calls, a person's 'psychological continuity'. For example, in the case of *Odièvre v France*, the Grand Chamber reiterated that Article 8 ECHR protects a right to identity and personal development. In that context, the Court emphasised that the preservation of *mental stability* is an indispensable precondition to effective enjoyment of the right to respect for private life.⁹⁴ As Marshall writes, our inner mind, the personal space that produces our thoughts, needs security and legal protection so as to enable us to be our own person. Humans need the ability to fulfil their capacities; they need a personal space to develop themselves. If that space is the mind or, more specifically and less Cartesian, the brain, then, Marshall argues that:

how that brain develops or is allowed to develop in and through the societies or social spaces it finds itself in, are surely included, or ought to be, in the legal protection of any right to personal identity. This is in line with the right to private life protected in human rights treaties' provisions; an understanding that we have integrity in our own thoughts and conscience, within our body. Each person is entitled to retain an ability and capacity to enable them to think reflectively without interference; to be in control of their own faculties.⁹⁵

Put differently, the formation and development of personal identity requires, among other things, the ability to freely develop and control our personal thoughts, beliefs, desires, and other mental faculties, without external restrictions or interference. It requires, in the words of the ECtHR, 'mental stability', as an indispensable precondition to an effective enjoyment of private life.

If the right to personal identity implies the preservation of a person's *mental stability*, and if it aims to guarantee *control of one's own mental faculties*, then such a right seems (perfectly able) to cover the protection of a person's *psychological connections* to oneself, in terms of memories, intentions, beliefs, goals, desires, similarity of character, for instance. In other words, the right

94 *Odièvre v France* [GC] 42326/98 (ECtHR, 13 February 2003) para 29. See also *Bensaid v the United Kingdom* 44599/98 (ECtHR, 6 February 2001) para 47.

95 Marshall (n 33) 18–19. And indeed, as it appears from the case law of the ECtHR, which will further be discussed in section 4, preserving mental stability is also essential regarding the protection of mental health as part of the right to *personal integrity* under Article 8 ECHR. See, for example, *Dolenec v Croatia* 25282/06 (ECtHR, 26 November 2009) para 165; *Khan v Germany* 38030/12 (ECtHR, 23 April 2015) para 35.

to personal identity is, then, likely to cover the protection of *psychological continuity*.

Surely, one could object to this claim by defending an alternative interpretation of (a right to) psychological continuity, or by arguing that the preservation of 'psychological continuity' is not completely identical to preserving 'mental stability'. But such semantic arguments do not contribute much to the actual debate on human rights protection for the mind. Whether the proposed right to psychological continuity is or can be completely absorbed by the right to personal identity, need not be our ultimate concern. Rather, the central question is whether recognising a right to psychological continuity would be necessary to protect against the threats that emerging neurotechnologies pose to personal identity; whether there is a gap in human rights law that needs to be filled by recognising this specific right.

As discussed in section 2, the aim of recognising a human right to psychological continuity would be to guarantee 'the continuity across a person's habitual thoughts, preferences, and choices by protecting the underlying neural functioning.'⁹⁶ It aims to protect against emerging technologies that could modify brain functioning and, ultimately, pursues to guarantee the coherence of peoples' behaviour and the preservation of their personal identity.⁹⁷ As it appears, preserving personal identity by protecting the individual's mental capacities to think reflectively and be in control of their own faculties, is one of the objectives of the right to personal identity pursuant to Article 8 ECHR. Moreover, as Marshall writes in the quotation above, the legal protection offered by the right to personal identity also includes the protection of the human brain and how that brain develops within different social spaces. As such, the right to personal identity pursues, among other things, the same objectives as a right to psychological continuity would: protecting the stability of our mental faculties in order to preserve personal identity, *inter alia*, by protecting the brain from external interferences so as to enable people to think reflectively and exercise control over their own faculties and behaviour.

Admittedly, a clear and well-developed approach on the protection of mental stability as a precondition of personal identity cannot yet be found in the case law of the ECtHR. But such an approach is likely to emerge as soon as neurotechnology is further developing and complaints about human rights violations due to brain modification reach the Court. As is known, the ECHR is to be considered a living instrument, which should be interpreted in view of present-day conditions, including societal, bioethical, and technological

96 Ienca and Andorno (n 1) 21.

97 Ibid.

developments.⁹⁸ This ‘dynamic’ or ‘evolutive’ interpretation enables the Convention to be applied to modern European societies and to keep up with persisting progress in emerging technologies.⁹⁹

So, indeed, the authors of the ECHR may not have envisaged the present-day challenges raised by emerging neurotechnology vis-à-vis personal identity. However, when confronted with complaints about this matter, the ECtHR is likely to interpret and redefine the right to personal identity in a way that fits its purpose in the 21st century. In that case, the Court shall consider the possibilities that new neurotechnologies offer to intervene into the human brain and mind, and what they would mean for our understanding of the right to personal identity. Ideally, the ECtHR would also take account of the comprehensive reflections on these developments in bioethical and neuroethical scholarship.¹⁰⁰ To facilitate and inform this kind of jurisprudence, further debate – in close collaboration between lawyers, ethicists, and neuroscientists – is much needed, as the moral concerns about emerging neurotechnologies have not yet been fully translated into concrete legal challenges and potential solutions in human rights law.¹⁰¹ Moreover, some general notions and concepts, such as ‘mental stability’, ‘identity’, and ‘personality’, are still ill-defined in the case law of the ECtHR.

The beginning of a re-understanding of the right to personal identity in view of novel technologies seems, in fact, already been marked in the case law on technological surveillance.¹⁰² For example, in the case of *Reklos and Davourlis v Greece*, the Court argued that a person’s image, captured in a photograph, is one of the characteristics attached to one’s personality. Its effective protection presupposes, in principle, obtaining peoples’ consent when taking a picture. Otherwise, ‘an essential attribute of personality would be retained in the hands of a third party and the person concerned would have no control over any subsequent use of the image.’¹⁰³ Likewise, referring to the importance for individuals to construct their ‘social identity’, the ECtHR has decided that employers are not allowed to surveil the complete electronic workplace

98 Harris and others (n 87) 7–8 and 508.

99 A Mowbray, ‘Between the Will of the Contracting Parties and the Needs of Today’, in *Shaping Rights in the ECHR: The Role of the European Court of Human Rights in Determining the Scope of Human Rights*, E Brems and J Gerards (eds), (Cambridge University Press 2013) 17.

100 Cf Michalowski (n 18) 406.

101 See also section 5. Cf Lighthart and others (n 1).

102 See P Friedl, ‘Privacy Law and the Social Construction of Identity: An Interrelated History’, in *Personal Identity and the European Court of Human Rights*, J Marshall (ed), (Routledge 2022) 49, 71–72; Marshall (n 33) 16–17.

103 *Reklos and Davourlis* (n 86) para 40.

communications of their employees,¹⁰⁴ nor may universities install video surveillance in the auditoriums without consent of the lecturers.¹⁰⁵

Cases like these illustrate that the introduction of new technology is sometimes accompanied with novel challenges to the formation and development of personality and identity. According to Friedl, these cases and alike seem reflective of a broader trend, 'namely that (re-)equipping individuals with the material faculties to live their lives according to the (social) identities they wish to adopt should be a guiding principle of Article 8 jurisprudence.'¹⁰⁶ This 'emancipatory, capabilities-oriented approach' to privacy rights seems, according to Friedl, better equipped to tackle today's challenges to personal identity, like those accompanied with the increased use in modern societies of algorithmic technologies and digital data analysis.¹⁰⁷ Likewise, such a capabilities-oriented approach to Article 8 ECHR, guided by the right to personal identity and recognising the importance of preserving peoples' mental stability, seems, in general, well-equipped to address the normative challenges raised by technologies that may enter and alter our mental faculties and, ultimately, change who we are and who we will become.

Moreover, next to the right to personal identity, changing who a person is and who they will become might, without valid consent, also potentially interfere with the broader right to self-determination. In the above-mentioned report for the Committee on Bioethics of the Council of Europe, it has been argued that a right to psychological continuity, together with the right to identity, would, among other things, offer solid normative ground for the protection of a person's self-determination, as these rights can help people retaining control over their own behaviour.¹⁰⁸ Following this line of thought – i.e., that a person's psychological continuity is conducive to self-determination – it is arguable that the legal protection of psychological continuity is already absorbed by the general right to self-determination. This right has been recognised as part of the right to respect for private life under Article 8 ECHR.¹⁰⁹ Although the ECtHR has not yet clearly articulated the precise meaning, scope and implications of the right to self-determination, it is clear

104 *Bărbulescu v Romania* [GC] 61496/08 (ECtHR, 5 September 2017) para 69–81.

105 *Antović and Mirković v Montenegro* 70838/13 (ECtHR, 28 November 2017) para 40–45.

106 Friedl (n 102) 73.

107 *Ibid.*

108 Ienca (n 9) 61.

109 *Parrillo* (n 88) para 153; *Pretty v the United Kingdom* 2346/02 (ECtHR, 29 April 2002) para 61. See also Michalowski (n 18).

that the right protects at least some aspects of a person's identity.¹¹⁰ According to Marshall, the Court's interpretation of the right to personal identity in fact corresponds to a form of human freedom as self-determination: the freedom to be and become the person one chooses.¹¹¹ Furthermore, the right to self-determination is intertwined with the right to personal integrity. According to Michalowski, the ECtHR seems to 'regard integrity and self-determination as closely linked, in that the reason behind the protection of integrity is precisely that of safeguarding that person's right to self-determination.'¹¹² In the same vein, Marshall observes that most of the ECtHR's case law supports a view on personal integrity that connects to the self-determination freedom of living a life of one's own choosing.¹¹³ As will be argued in the following section, next to the rights to personal identity and self-determination, the right to personal integrity is able to offer profound legal protection to a person's psychological continuity too.

4 Psychological Continuity and the Right to Personal Integrity

Apart from the general right to personal identity, human rights law also offers more specified protection to various preconditions for the formation, preservation, and development of personal identity.¹¹⁴ Particularly relevant to the purpose of this paper, is the human right to personal integrity, which includes, in general terms, the protection of a person's physical and mental integrity. For example, Marshall emphasises that the interpretation of a right to personal identity is intertwined with the right to personal integrity as is recognised in the case law of the ECtHR.¹¹⁵ Likewise, Tiedemann notes that '[s]ome human rights protect physical and mental integrity whose severe violation leads to the loss of personal identity.'¹¹⁶

A right to personal integrity has been recognised under different international and regional human rights instruments. At the international level, neither the UDHR nor the ICCPR guarantee this right explicitly. However, paragraph 3 of the General Comment on Article 9 ICCPR highlights that '[s]

110 See, for example, *SV* (n 90) para 55; *Van Kück v Germany* 35968/97 (ECtHR, 12 June 2003) paras 69 and 73. See also Marshall (n 91) 122.
 111 Marshall (n 85) 241; Marshall (n 91) 121.
 112 Michalowski (n 18) 405.
 113 Marshall (n 91) 201.
 114 Tiedemann (n 33); Marshall (n 33); Marshall (n 85); Marshall (n 91).
 115 Marshall (n 33) 13. Also Marshall (n 85) 41.
 116 Tiedemann (n 33) 27.

ecurity of person concerns freedom from injury to the body and the mind, or bodily and mental integrity'.¹¹⁷ Furthermore, Article 17 of the UN Convention on the Rights of Persons with Disabilities (CRPD) prescribes that '[e]very person with disabilities has a right to respect for his or her physical and mental integrity on an equal basis with others.'¹¹⁸ Within the Inter-American context, Article 5(1) ACHR states that '[e]very person has the right to have his physical, mental, and moral integrity respected.'¹¹⁹ In the European context, a similar right is guaranteed by Article 3 of the Charter of Fundamental Rights of the European Union, aiming to provide comprehensive protection of the person, especially against new technologies.¹²⁰ Safeguarding the person's physical and mental integrity is also essential to the absolute prohibition of torture, inhuman and degrading treatment pursuant to Article 3 ECHR. Furthermore, the ECtHR has recognised the protection of personal integrity as part of the qualified right to respect for private life under Article 8 ECHR.¹²¹ As the scope of Article 8 ECHR is arguably broader than the scope of Article 3 ECHR, I will first consider the former, then the latter.

Under Article 8 ECHR, the ECtHR holds that the right to respect for one's private life comprises a right to physical and psychological integrity.¹²² Sometimes, the Court also refers to a right to 'mental' and 'moral' integrity. Meanwhile, the case law suggests that psychological, mental, and moral integrity are interchangeable terms.¹²³ In general, the right to *physical* integrity covers a right against non-consensual interferences with one's body, which is, according to the Court, 'the most intimate aspect of private life.'¹²⁴ The right encompasses a broad scope of physical intrusions.¹²⁵ These range from

117 United Nations Human Rights Committee, 'General Comment No. 35: Article 9 (Liberty and Security of Person)' (16 December 2014) CCPR/C/GC/35, para 3.

118 CRPD (n 21) Article 17.

119 ACHR (n 21).

120 C Bublitz, 'The Nascent Right to Psychological Integrity and Mental Self-Determination', in *The Cambridge Handbook of New Human Rights: Recognition, Novelty, Rhetoric*, A Von Arnould, K Von der Decken, and M Susi (eds), (Cambridge University Press 2020) 387, 395.
121 Harris and others (n 87) 525; KM de Vries, 'Right to Respect for Private and Family Life', in *Theory and Practice of The European Convention on Human Rights*, in P van Dijk and others (eds), (Intersentia 2018) 667, 690.

122 *Bédat v Switzerland* [GC] 56925/08 (ECtHR, 29 March 2016) para 72.

123 De Vries (n 121) 690. See, for example, *Špadijer v Montenegro* 31549/18 (ECtHR, 9 November 2021) paras 79–90. See also *Beizaras and Levickas v Lithuania* 41288/15 (ECtHR, 14 January 2020) para 128 in relation to *Panayotova and Others v Bulgaria* 12509/13 (ECtHR, dec. 7 May 2019) para 58–59.

124 *YF v Turkey* 24209/94 (ECtHR, 22 July 2003) para 33.

125 For overviews, see Marshall (n 91) 168–201; De Vries (n 121) 690–697; B Rainey, P McCormick, and C Ovey, *Jacobs, White, and Ovey: The European Convention on Human Rights* (8th edn, Oxford University Press 2021) 411–414.

minor non-consensual medical interventions such as taking saliva,¹²⁶ blood,¹²⁷ urine,¹²⁸ and obliging an X-ray,¹²⁹ to physical searches by the police,¹³⁰ gynaecological examination in prison,¹³¹ and rape.¹³²

The contours of the right to *psychological, moral, and mental* integrity are less clear.¹³³ The ECtHR usually refrains from providing a further definition of these notions,¹³⁴ but we do know that they cover, at least, the protection of mental health as a crucial part of private life.¹³⁵ Furthermore, these rights apply to cases about bullying at school and in the workplace,¹³⁶ well-founded fear for physical abuse,¹³⁷ and loss of honour and reputation.¹³⁸

Note, however, that not just any interference with a person's body and mind by a non-state actor necessarily infringes Article 8 ECHR. The Court has emphasised:

that not every act or measure of a private individual which adversely affects the physical and psychological integrity of another will interfere with the right to respect for private life guaranteed by Article 8 [...]. It reiterates that a severity threshold is necessary for the applicability of Article 8 in such a situation.¹³⁹

To infringe the right to personal integrity under Article 8 ECHR, an interference with the body or mind should have 'sufficiently adverse effects' on the person's physical or psychological integrity.¹⁴⁰ However, this severity threshold has not yet been further elaborated upon in the case law.¹⁴¹ As a consequence, its implications for the human rights protection against relatively minor

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- 126 *Caruana v Malta* 41079/16 (ECtHR, dec, 15 May 2018).
 127 *Schmidt v Germany* 32352/02 (ECtHR, dec, 5 January 2006).
 128 *Peters v the Netherlands* 21132/93 (ECmHR, dec, 6 April 1994).
 129 *Acmagne and Others v Belgium* 10435/83 (ECmHR, dec, 10 December 1984).
 130 *Gillan and Quinton v the United Kingdom* 4158/05 (ECtHR, 12 January 2010).
 131 *Juhnke v Turkey* 52515/99 (ECtHR, 13 May 2008).
 132 *MC v Bulgaria* 39272/98 (ECtHR, 4 December 2003).
 133 Bublitz (n 120); Michalowski (n 18).
 134 De Vries (n 121) 690.
 135 *Dolenec* (n 95) para 165; *Bensaid* (n 94) para 47.
 136 *Dorđević v Croatia* 41526/10 (ECtHR, 24 July 2012) para 97–98; *Špadijer* (n 123) para 79–83.
 137 *Hajduová v Slovakia* 2660/03 (ECtHR, 30 November 2010) para 49.
 138 *Ion Cârstea v Romania* 20531/06 (ECtHR, 28 October 2014) para 38; *Putistin v Ukraine* 16882/03 (ECtHR, 21 November 2013) para 32.
 139 *Nicolae Virgiliu Tănase v Romania* 41720/13 (ECtHR, 26 June 2019) para 128.
 140 *Király and Dömötör v Hungary* 10851/13 (ECtHR, 17 January 2017) para 42; *Costello-Roberts v the United Kingdom* 13134/87 (ECtHR, 25 March 1993) para 36.
 141 Harris and others (n 87) 825.

interferences with the person's body and mind by private individuals are, as yet, largely unclear.

The right to physical and psychological integrity overlap, to a considerable extent, with the proposed right to psychological continuity.¹⁴² The latter seems to be a specification of the former. Whereas the rights to physical and psychological integrity protect against non-consensual interferences with, broadly speaking, the body and the mind, a right to psychological continuity would aim to protect a particular aspect of the body and the mind – that is, the brain and the continuity across specific mental faculties such as habitual thoughts, preferences, and choices.¹⁴³

Moreover, both a right to psychological continuity and the right to physical and psychological integrity seem to serve as a similar precondition for the effective protection of a right to personal identity. As discussed in section 2, a right to psychological continuity aims to protect against non-consensual modifications of brain functioning and, thereby, guarantee the preservation of personal identity.¹⁴⁴ According to the psychological-continuity account of personal identity, the continuity of a person's psychological connections is the essential requirement for the preservation of personal identity. The ECtHR does not refer to psychological continuity as a condition for personal identity. It does, however, acknowledge the importance of preserving mental stability in this regard.¹⁴⁵ Furthermore, the Grand Chamber appears to consider the preservation of a person's physical and psychological integrity as a prerequisite for the protection of personal identity:

The concept of “private life” is a broad term which is not susceptible to exhaustive definition. It covers the physical and psychological integrity of a person, *and can therefore embrace* multiple aspects of the person's identity such as, for example, gender identification, sexual orientation, name and elements relating to a person's right to his or her image.¹⁴⁶

As Marshall notes, today, in the age of neuroscience and genetics, many discussions concerning the soul, rationality, and the core of what it is to be

142 Ienca and Androno (n 1) 22.

143 Ibid 21.

144 Ibid.

145 *Odièvre* (n 94) para 29; *Bensaid* (n 94) para 47.

146 *Bédat* (n 122) para 72 (emphasis added). See also *Denisov v Ukraine* [GC] 76639/11 (ECtHR, 25 September 2018) para 95. Cf *Mubilanzila Mayeka and Kaniki Mitunga v Belgium* 13178/03 (ECtHR, 12 October 2006) para 80.

human, are shifting towards debates over the brain and DNA.¹⁴⁷ Personal identity requires mental stability, and since our mental states and processes are considered a product of the brain, it is a logical step to argue that the protection of personal identity requires the protection of neural functioning – especially as it appears that emerging neurotechnology could enable others to manipulate our neural and mental activities.

It is, however, unclear why the protection of our brains and mental functioning against unwanted intrusions by others would require the recognition of a specific right to psychological continuity, in addition to the general and robust protection that is offered to the body and mind by the right to physical, psychological, mental, and moral integrity. These rights protect against a wide range of severe and less severe interferences with the brain, psychological well-being, and aspects central to moral integrity, such as a person's choices to live one's life in accordance with one's own ethical standards.¹⁴⁸ Hence, these rights are likely to offer adequate legal protection against unconsented alterations of people's brain functioning and, ultimately, of their memories, intentions, beliefs, desires, character, and alike.¹⁴⁹ For example, the ECtHR considers that under Article 8 ECHR, states have a positive obligation to protect the physical, psychological, and moral integrity of an individual, by creating and applying an adequate legal framework that protects against acts of violence by private individuals. Effective protection against (severe) attacks to peoples' physical integrity requires efficient criminal-law mechanisms. The protection of psychological integrity may also consist of civil-law remedies, capable of affording sufficient protection.¹⁵⁰

Ienca and Andorno acknowledge that a right to psychological continuity would pursue, to a considerable extent, similar aims as the right to mental (or psychological) integrity. Meanwhile, they argue that unlike mental integrity rights, a right to psychological continuity would, desirably, also extend to those cases where psychological changes have been induced, but no physical or mental *harm* has been inflicted. They write:

147 Marshall (n 85) 111.

148 Marshall (n 91) 167–168; D Feldman, 'The Developing Scope of Article 8 of the European Convention on Human Rights' (1997) 3 *European Human Rights Law Review* 265, 270.

149 Michalowski (n 18); Bublitz (n 18); S Lighthart and others, 'Closed-Loop Brain Devices in Offender Rehabilitation: Autonomy, Human Rights, and Accountability' (2021) 30 *Cambridge Quarterly of Healthcare Ethics* 669; JN Craig, 'Incarceration, Direct Brain Intervention, and the Right to Mental Integrity – a Reply to Thomas Douglas' (2016) 9 *Neuroethics* 107.

150 *Špadijer* (n 123) paras 86–89; *Nicolae Virgiliu Tănase* (n 139) para 126–27. A similar obligation follows from the right to liberty and security pursuant to ICCPR (n 24) Article 9, see CCPR/C/GC/35 (n 117) para 9.

The right to psychological continuity is closely related to the right to mental integrity, and may factually overlap with it. Both rights stand to protect people from abusive and unconsented alterations of their mental dimension. However, they differ to the extent that the right to psychological continuity also applies to emerging scenarios that do not directly involve neural or mental harm. In contrast (...) the presence of harm is a necessary condition for an action to qualify as an offence to a person's mental integrity. To appreciate this difference, it is important to consider that psychological continuity could be threatened not only by misused brain stimulation but also by less invasive, even unperceivable interventions. A good example is unconscious neural advertising via neuromarketing.¹⁵¹

The distinction between harmful and harmless interferences with peoples' mental faculties seems appealing in normative evaluations of emerging neurotechnology. Meanwhile, whether this descriptive differentiation is compelling to distinguish a right to psychological continuity from the right to mental, psychological, and moral integrity might be challenged.

First, it is doubtful whether the right to physical and psychological integrity would only cover interferences that result in physical and/or psychological harm.¹⁵² Indeed, the *absolute* protection of bodily and mental integrity under Article 3 ECHR will normally only apply to cases of (severe) physical or mental suffering.¹⁵³ However, this seems no general requirement for the application of the *qualified* right to respect for private life under Article 8 ECHR. For instance, Bublitz notes that the right to psychological integrity in the meaning of Article 8 ECHR seems conceptually broader, as it may capture interferences that do not amount to setbacks to mental health or mental stability, like in cases on

151 Ienca and Andorno (n 1) 22.

152 Which would, obviously, also depend on how one defines, exactly, physical and psychological harm. As mentioned above, the meaning of the threshold of having 'sufficiently adverse affects' on a person's physical or psychological integrity, to which the Court refers in cases on interference between private individuals, is as yet largely unclear.

153 Harris and others (n 87) 243; B Vermeulen and H Battjes, 'Prohibition of Torture and Other Inhuman or Degrading Treatment or Punishment', in *Theory and Practice of The European Convention on Human Rights*, in P van Dijk and others (eds), (Intersentia 2018) 387, 384.

prejudiced honour and reputation.¹⁵⁴ In Bublitz' view, integrity rights cover all kinds of alterations that disrupt the preservation of the integrity right's object. As he argues: 'Although there is no settled understanding, a right to the integrity of X seems to denote the preservation of the intactness, unity or identity of X. Alterations of these features then constitute interferences.'¹⁵⁵ Likewise, considering the right to physical integrity, Marshall neither seems to endorse the requirement that infringements should entail physical harm. Rather, she connects the right to physical integrity to the philosophical idea of ownership of one's own body, which is 'certainly not being for anyone else to interfere with.'¹⁵⁶ Illustrative in this regard are infringements of the right to physical integrity by the non-consensual acquisition of saliva for DNA analysis via a buccal swab, which, according to the ECtHR, 'usually causes no bodily injury or any physical or mental suffering.'¹⁵⁷ Likewise, in ethical discussions over the *moral* right to bodily integrity, the infliction of physical harm neither seems a clear nor universal requirement for infringing the right.¹⁵⁸ For example, according to some interpretations, mere bodily contact, like touching, without consent, could already infringe the moral right to bodily integrity.¹⁵⁹ In the same vein, the moral right to mental integrity has been defined, on a minimalist conception, as a right against (certain kinds of) non-consensual interferences with one's mind.¹⁶⁰ On this account, infringements need not necessarily entail either neural or mental harm.

Secondly, whether a right to psychological continuity would indeed apply to scenarios that do not directly involve any neural or mental harm, such as unconscious advertisement through neuromarketing, will depend on how 'psychological continuity' is to be defined. If we follow Parfit, psychological continuity means that a person has an overlapping chain of *strong* psychological connectedness to oneself across time. Such a strong connectedness exists if

154 Bublitz (n 120) 396. See also SE Biber and M Capasso, 'The Right to Mental Integrity in the Age of Artificial Intelligence: Cognitive Human Enhancement Technologies', in *Law and Artificial Intelligence*, B Custers and E Fosch-Villaronga (eds), (TMC Asser 2022) 503, 511. See, for example, *Ion Cârstea* (n 138) para 38.

155 Bublitz (n 120) 397.

156 Marshall (n 91) 170.

157 *Caruana* (n 126) para 41 (see also paras 27–28). Cf *Nicolae Virgiliu Tănase* (n 139) para 130.

158 A Lavazza and R Giordi, 'Philosophical Foundations of the Right to Mental Integrity in the Age of Neurotechnologies' (2023) 16 *Neuroethics* 10; J Ryberg, *Neurointerventions, Crime, and Punishment* (Oxford University Press 2020) 75 et seq.

159 Ryberg (n 158) 75 et seq; V Tesink and others, 'Neurointerventions in Criminal Justice: On the Scope of the Moral Right to Bodily Integrity' (2023) 16 *Neuroethics* 26.

160 Lighthart and others (n 1) 6.

the number of psychological connections to oneself, 'over any day, is at least half the number of direct connections that hold, over every day, in the lives of nearly every actual person.'¹⁶¹ This means that a person's psychological continuity will only be disrupted if one loses more than half the number of psychological connections one has to oneself, compared to a 'normal' actual person. As Pugh rightly points out, this is quite a high threshold.¹⁶²

If a person's psychological continuity is only disrupted when over half of one's psychological connections have been destroyed compared to a normal person, it seems unconvincing to argue that a right to psychological continuity would apply to interferences that do not involve any kind of neural or mental harm. After all, a disruption of psychological continuity in this sense would in and of itself imply substantial harm to the person's psychological, cognitive, or intellectual functioning, as it requires a radical and detrimental effect on the person's psychological economy, impairing a significant amount of one's psychological connections in terms of memories, intentions, beliefs, and desires.

In fact, the intentional infliction upon another person of such an acute and global mental deterioration, may, potentially, even attain a minimum level of severity so as to violate the absolute prohibition of ill-treatment pursuant to Article 3 ECHR. As Tiedemann notes, severe violations of human rights that protect physical and mental integrity could lead to the loss of personal identity, which is evidenced by the ban of torture and inhuman and degrading treatment and punishment.¹⁶³ Illustrative in this regard is a recent statement of the UN Special Rapporteur on torture and other cruel, inhuman or degrading treatment or punishment. In his report on psychological torture and ill-treatment, the Rapporteur explicitly refers to the potential threats of neurotechnology in relation to profound disruptions of a person's mental identity, capacity, and autonomy. Drawing attention to the rapid advances in medical, pharmaceutical and neurotechnological science, the Rapporteur highlights the difficulty of predicting to what extent future techniques of torture, as well as the human enhancement of people's mental and emotional resilience, may allow the manipulation, circumvention, or suppression of the subjective experiences of pain and suffering, while still attaining the dehumanising, debilitating and incapacitating effects of torture.¹⁶⁴ Meanwhile, states must interpret and exercise the prohibition of torture in good faith and

161 Parfit (n 53) 206.

162 Pugh (n 59) 1661.

163 Tiedemann (n 33) 27.

164 A/HRC/43/49 (n 43) para 32.

in the light of the evolving values of democratic societies. In that light, the Rapporteur would find it:

irreconcilable with the object and purpose of the universal, absolute and non-derogable prohibition of torture, for example, to exclude from the definition of torture the profound disruption of a person's mental identity, capacity or autonomy only because the victim's subjective experience or recollection of "mental suffering" has been pharmaceutically, hypnotically or otherwise manipulated or suppressed.¹⁶⁵

In the European context, one could quite easily imagine the ECtHR qualifying a disruption of over half a person's psychological connections to oneself through neurotechnology as, to say the least, 'degrading', which the Court defines as a treatment that 'humiliates or debases an individual, showing a lack of respect for, or diminishing, his or her human dignity, or when it arouses feelings of fear, anguish or inferiority capable of breaking an individual's moral and physical resistance.'¹⁶⁶

In sum, this section argued that the legal protection a right to psychological continuity would offer, is, by and large, covered by the broader, existing rights to physical and psychological integrity. These rights offer robust – both qualified and absolute – protection against severe and less severe interferences with the brain and mental functioning by third parties. They serve as an essential precondition for the effective protection and preservation of personal identity.

5 Concluding Thoughts

As Ienca and Andorno have rightly pointed out, the human rights protection of personal identity and, more specifically, psychological continuity, gains increasing significance in the in the age of emerging neurotechnologies. In this paper, I have argued that the ECHR offers robust protection to the notion of psychological continuity. This protection is covered, or is at least able to be covered, by the rights to personal identity, self-determination, and the right to psychological and physical integrity. As such, recognising a specific human right to psychological continuity would be repetitive of existing human rights. Therefore, in my view, there is no need for developing such a right.¹⁶⁷

¹⁶⁵ Ibid.

¹⁶⁶ *Svinarenko and Slyadnev v Russia* [GC] 32541/08 and 43441/08 (ECtHR, 17 July 2014) para 115.

¹⁶⁷ Cf Tiedemann (n 33) 28; Bublitz (n 18); Michalowski (n 18) 407 and 409.

Meanwhile, much of the central notions and concepts that are relevant to the protection of psychological continuity are still underdeveloped and ill-defined in the case law of the ECtHR. For example, the Court refers to the right to psychological, mental, and moral integrity without clarifying the meaning, scope, and distinctive functions of these, ostensibly, different rights. Likewise, it develops and applies, on a case-by-case basis, a right to personal identity and personality, referring to the importance of preserving mental stability, though without defining these notions and elucidating a clear conception of what identity and personality require and consist of. To address the legitimate concerns about the sustainability of human rights voiced by scholars such as Ienca and Andorno, it is much needed to provide more clarity about the existing legal concepts relevant to the protection of the human mind, and how these concepts (should) relate to each other.¹⁶⁸

Indeed, these issues may well become clearer as soon as the ECtHR must decide on individual complaints about unsolicited intrusions with a person's mental faculties and identity, for example, through the use of neurotechnology. Meanwhile, one could question whether we should leave this kind of conceptual clarification entirely to the casuistic jurisprudence of the ECtHR. Human rights protection of the mind is a relatively new and complex area of legal thinking. It is deeply intertwined with moral philosophical ideas on rights, freedoms, and the mind. It also relates to metaphysical issues, such as free will and ontological dualism between body and mind. These are not typically the primary concerns of the ECtHR. Neither is the in-depth, theoretical clarification of a conceptual understanding of (emerging) rights and freedoms. Rather, the Court pursues to solve individual human rights disputes on a case-by-case basis, by examining complaints about alleged rights violations in specific situations.¹⁶⁹ Furthermore, as Rainey, McCormick and Ovey warn, the ECtHR case law can sometimes be 'inconsistent and loosely reasoned'.¹⁷⁰

In this light, it seems desirable, too, to anticipate and discuss the development of a legal doctrinal approach on human rights protection of the mind, outside of the courtroom, which can, in turn, inform the Court's jurisprudence. Given

168 Cf S Ligthart and N van de Pol, 'Freedom of Thought: Absolute Protection of Mental Privacy and Mental Integrity?', in *The Cambridge Handbook of the Right to Freedom of Thought*, P O'Callaghan and B Shiner (eds), (Cambridge University Press 2024) (forthcoming).

169 Occasionally, the Court does, however, provide some 'general principles' that aim to clarify its interpretation on a certain issue. See on this: J Gerards, *General Principles of the European Convention on Human Rights* (Cambridge University Press 2019) 31 et seq.

170 Rainey, McCormick, and Ovey (n 125) 461. See also CK Roberts, 'Reconceptualising the Place of the Forum Internum and Forum Externum in Article 9 of the European Convention on Human Rights' (PhD Thesis, University of Bristol Law School 2020) 31.

the complexity and interdisciplinary nature of the topic, close collaboration between lawyers, philosophers, and neuroscientists would be beneficial. In fact, some very important groundwork has already been done in this regard.¹⁷¹ In view of the ongoing projects like those by the Council of Europe and the Human Rights Council of the United Nations, it is much needed to continue and intensify this discussion. It is essential to clarify the meaning, scope, and potential implications of human rights that are relevant to protect our inner mental spheres. These include the right to personal identity, self-determination, and the right to personal integrity.

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¹⁷¹ Ienca and Andorno (n 1); Farahany (n 1); M Blitz and C Bublitz (eds), *The Law and Ethics of Freedom of Thought Vol. 1: Neuroscience, Autonomy, and Individual Rights* (Palgrave MacMillan 2021); M Blitz and C Bublitz (ed), *The Law and Ethics of Freedom of Thought Vol. 2: Cognitive Liberty and Privacy* (Palgrave MacMillan) (forthcoming). See also Lighthart and others (n 1).