



# Neurorights – Do we Need New Human Rights? A Reconsideration of the Right to Freedom of Thought

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**Abstract** Progress in neurotechnology and Artificial Intelligence (AI) provides unprecedented insights into the human brain. There are increasing possibilities to influence and measure brain activity. These developments raise multifaceted ethical and legal questions. The proponents of neurorights argue in favour of introducing new human rights to protect mental processes and brain data. This article discusses the necessity and advantages of introducing new human rights focusing on the proposed new human right to mental self-determination and the right to freedom of thought as enshrined in Art.18 International Covenant on Civil and Political Rights (ICCPR) and Art. 9 European Convention on Human Rights (ECHR). I argue that the right to freedom of thought can be coherently interpreted as providing comprehensive protection of mental processes and brain data, thus offering a normative basis regarding the use of neurotechnologies. Besides, I claim that an evolving interpretation of the right to freedom of thought is more convincing than introducing a new human right to mental self-determination.

**Keywords** Human rights · Neurotechnologies · Neurorights · Freedom of thought · Mental self-determination

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## Introduction

Today we experience rapid progress in the development of neurotechnologies.<sup>1</sup> Increasingly sophisticated devices have been and are being developed to measure and influence brain activity. Neurotechnological devices such as *electroencephalography* (EEG) or *functional magnetic resonance imaging* (fMRI) can measure brain activity, and electrodes for *deep brain stimulations* (DBS) or *transcranial magnetic stimulation* (TMS) devices are used to influence brain activity, e.g. to treat diseases like Parkinson.<sup>2</sup> The possibilities to measure and influence brain activity will increase and become more precise in the years to come, especially by using methods from artificial intelligence.<sup>3</sup> Moreover, neurotechnologies will no longer be used only in the clinical field and as medical devices but also in everyday life as consumer devices [6]. It is already possible to buy portable EEG systems, e.g. as part of a meditation application, to “measure” stress and lack of concentration [7, 8]. Tech companies like Meta or Neuralink conduct research on *Brain-Computer-Interfaces* (BCIs) with

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<sup>1</sup> Oliver Müller and Stefan Rotter [1]: The authors define neurotechnologies as “the assembly of methods and instruments that enable a direct connection of technical components with the nervous system”.

<sup>2</sup> Similarly, pharmaceutical interventions on the brain are becoming more precise and effective, see: Nita A Farahany [2].

<sup>3</sup> For a deeper analysis on neurotechnologies and artificial intelligence, see: Orsolya Friedrich and Andreas Wolkenstein [3]; Philipp Kellmeyer [4]; Stephen Rainey and Yasemin J Erden [5].

the aim to enable users to control devices, e.g. smartphones, with their “minds” [9, 10, 11].<sup>4</sup> These developments raise multifaceted ethical and legal questions. Some scholars argue that existing human rights do not adequately protect against the threats and risks posed by these developments, and that the introduction of new human rights, often called *neurorights*,<sup>5</sup> is therefore necessary. Chile is, in fact, the first state that works towards incorporating specific provisions into its constitution to protect brain activity [15].<sup>6</sup>

This raises the question of whether the claim is convincing that existing legal human rights<sup>7</sup> do not provide sufficient protection and what risks or disadvantages the introduction of new human rights may entail. New human rights are defined for the purpose of this paper as “rights that, when first conceived, are not expressly recognised in any human rights treaty and are not in any other way recognised as rights in a legal sense” [19]. This paper addresses these

<sup>4</sup> There is also great potential for using BCIs to communicate with patients suffering from locked-in syndrome, see for example: Ujwal Chaudhary, Ioannis Vlachos et al. [12]; Liam Drew [13].

<sup>5</sup> The term “neurorights” was introduced by Marcello Ienca and Roberto Andorno: Marcello Ienca and Roberto Andorno [14]. The notion is now often associated with the Neurorights Foundation <<https://neurorightsfoundation.org/>> accessed 01 August 2022. In this paper, the term “neurorights” is used as an umbrella term for newly proposed human rights that are aimed to protect the “mind”.

<sup>6</sup> This initiative regards the constitutional level. However, international human rights and constitutional rights are connected. Constitutional rights must be consistent with international human rights enshrined in the *Universal Declaration of Human Rights* (adopted 10 December 1948) and international human rights treaties ratified by the respective state. Therefore, claims for new constitutional rights *may* indicate that the international human rights regime has deficiencies which the state seeks to remedy at the constitutional level. See also: Gerald L Neuman [16]. Another initiative pointing in this direction is the adoption of the (non-binding) *Charter of Digital Rights* by Spain in 2021 which dedicates one article to “Digital rights in the use of neurotechnology” (Art. XXIV) <[https://portal.mineco.gob.es/RecursosArticulo/mineco/ministerio/participacion\\_publica/audiencia/ficheros/Charter%20of%20Digital%20Rights.pdf](https://portal.mineco.gob.es/RecursosArticulo/mineco/ministerio/participacion_publica/audiencia/ficheros/Charter%20of%20Digital%20Rights.pdf)> accessed 01 August 2022.

<sup>7</sup> Legal human rights are human rights that are legally recognised; they can be distinguished from universal moral rights, see: Samantha Besson [17], 28: “The law makes universal moral rights human rights, either by recognizing them as legal rights or by creating them in recognition of certain fundamental universal moral interests. This understanding of the relationship between moral and legal human rights is one of mutuality”. On the correspondence between moral and legal human rights, see: Silja Voenekey [18], 151.

questions and provides critical reflections on the need for neurorights as new human rights.

In a first step, I will provide an overview of the scholarly debate and the conceptualisations of neuro-rights. In order to evaluate the necessity of introducing new human rights, it is important to identify the human rights that are potentially relevant in this context and define their scope of protection. Therefore, in a second step, I will consider which human rights could provide the protection attributed to neuro-rights, focusing on the right to freedom of thought, as enshrined in Art. 9 European Convention on Human Rights (ECHR)<sup>8</sup> and Art. 18 International Covenant on Civil and Political Rights (ICCPR),<sup>9</sup> and the proposed new human right to mental self-determination. Finally, the complex processes of legal recognition of new human rights and evolving interpretation of existing human rights will be outlined and compared, focusing again on the right to mental self-determination and the right to freedom of thought. It is argued that the existing human right to freedom of thought can be coherently interpreted as providing comprehensive protection of mental processes and brain data. Besides, I claim that an evolving interpretation of this right is more convincing than introducing a new human right to mental self-determination.

## The Conceptualisation of Neurorights

In this paper, the notion “neurorights” is understood as an umbrella term to describe new human rights that essentially seek to protect the individual’s control over his or her mind. The conceptualisations vary, and different rights and scopes of protection are proposed. This section aims to provide an overview of the debate and present some conceptualisations.

### Interdisciplinary Proposals

The debate on neurorights is based on interdisciplinary exchanges and involves, for example, neurologists,

<sup>8</sup> Council of Europe, *European Convention for the Protection of Human Rights and Fundamental Freedoms*, adopted 4 November 1950 (entry into force 3 September 1953).

<sup>9</sup> *International Covenant on Civil and Political Rights* adopted by GA. Res. 2200A (XXI), 16 December 1966, entered into force 23 March 1976, 999 U.N.T.S. 171 (entry into force 23 March 1976).

bioethicists, philosophers or psychiatrists. This section presents some interdisciplinary proposals for new human rights, i.e. conceptualisations by non-legal scholars.

In 2017, in light of the rapid development of neurotechnology, *Rafael Yuste et al.* identified four ethical priorities that new human rights (“neurorights”) should cover: privacy, augmentation, algorithmic bias and identity or agency [20]. Yet, *Yuste et al.* did not elaborate on the scope of protection of these rights in their paper.

The idea of neurorights was elaborated by *Marcello Ienca and Roberto Andorno*, who propose four new human rights that partly overlap with the four ethical priorities identified by *Yuste et al.* [21]. In their paper, they argue for the introduction of a right to mental privacy, a right to mental integrity, a right to psychological continuity and a right to cognitive liberty. It remains unclear whether the proposed rights are absolute rights, thus whether interferences can be justified or not.<sup>10</sup> The authors leave this question open for discussion.

In the following, I will provide an overview of the four neurorights introduced by *Ienca and Andorno* and their proposed scope of protection.

*The right to mental privacy* is intended to protect “private or sensitive information in a person’s mind from unauthorized collection, storage, use or even deletion” [21]. According to the authors, it would protect the information before it materialises (before it is written, spoken, or generally expressed), thereby also protecting the source and thus providing stronger protection than current privacy rights.

*The right to mental integrity* should protect against all “unauthorized intrusions” [21]. *Ienca and Andorno* admit that this right is already enshrined in the jurisprudence of the European Court of Human Rights (ECtHR) on Art. 3 ECHR. However, the authors argue that the scope of that right is too narrow, as it only protects against mental illness or traumatic injury but not against unauthorised intrusions in general.<sup>11</sup> Therefore, the authors propose to reconceptualise this right.

*The right to psychological continuity* is meant to protect “the mental substrates of personal identity from unconscious and unconsented alteration by third

parties through the use of invasive or non-invasive neurotechnology” [21]. The ECtHR has developed the right to identity in its jurisprudence on Art. 8 ECHR [24]. *Ienca and Andorno* argue that privacy and identity should be distinguished. The right to psychological continuity aims to prevent the alteration of neural functioning, not just the access to brain data [21]. In addition, the authors claim that current personality rights do not sufficiently protect the identity because they focus on actions or expressions of that identity, whereas “psychological continuity guarantees protection at an antecedent level” [21]. The authors admit that the right to psychological continuity may overlap with the right to mental integrity, but it does not require neural or mental harm. Thus, it should also protect against unperceivable interventions like *neuromarketing*, *microtargeting* or *nudging*. In other words, all kinds of interventions that aim to circumvent people’s rational defences against manipulation.

Finally, the authors argue for the introduction of *a right to cognitive liberty*, which, in its negative dimension, aims to protect the individual from coercive and unconsented use of neurotechnology.<sup>12</sup>

Other scholars propose the introduction of only *one* new human right. *Andrea Lavazza*, for example, argues in favour of the introduction of a *right to mental integrity*. The right should protect the “individual’s mastery of his mental state and his brain data so that, without his consent, no one can read, spread or alter such states and data in order to condition the individual in a way” [25]. The right to mental integrity would thus encompass privacy and selfdetermination and would not merely protect against intrusions. The proposed scope of this right is thus broader than that of the right to mental integrity proposed by *Ienca and Andorno*.

The conceptualisations vary between the proposal of several specific rights and a comprehensive general right. The proposals of legal scholars are in line with the latter approach and focus on introducing one new human right.

## The Legal Debate on Neurorights

Neurospecific rights are not mentioned in court decisions and are rarely discussed in the literature. The human

<sup>10</sup> For a comprehensive analysis of human rights limitations, see: Frédéric Mégret [23], 99.

<sup>11</sup> However, treatments that do not meet the threshold of Art. 3 ECHR are usually considered under Art. 8 ECHR, which is not addressed by *Ienca and Andorno*. See for example: Ursula Kil Kelly [24], 366.

<sup>12</sup> The authors do not elaborate on the right to cognitive liberty, but refer to the existing conceptualisations of this right, which are outlined below .

rights challenges posed by the rapid development of neurotechnologies remain largely unconsidered in the legal debate. The most advanced conceptualisations of neurorights by legal scholars have been presented by *Jan Christoph Bublitz* and *Nita A. Farahany*.

Both authors argue in favour of introducing only one new human right, the *right to cognitive liberty* [2] or the *right to mental self-determination*, [26] which are both not conceptualised as absolute rights, meaning that interferences can be justified.

*Bublitz* proposes that the *right to mental self-determination* should encompass four aspects [26]. Primarily, no one has claims on the rights holder's mind, meaning no one has to be in a certain state of mind or hold particular thoughts. The rights holder can only voluntarily accept mental duties required, for example, for dangerous activities, such as sobriety to drive a car. Secondly, the right includes an integrity dimension and protects against interferences in one's mind. Additionally, there can be no negative sanctions for thoughts, beliefs and opinions. Finally, the right contains a privacy dimension, and no one is obliged to disclose one's thoughts. The scope of this right is thus very broad and encompasses most aspects of the four proposed rights by *Ienca* and *Andorno* mentioned in the previous section. The right proposed by *Bublitz* has a self-determination, integrity, and privacy dimension. He argues that the right to mental self-determination is a combination of already existing rights, especially the right to mental integrity (Art. 8 ECHR) and the right to freedom of thought (Art. 9 ECHR), but should become an independent right because it would provide better protection than these rights.

The other proposed right, the *right to cognitive liberty*, emerged in the academic debate on cognitive enhancement in the early 2000s and also has a broad scope of protection [27, 28]. *Bublitz* defines it as "the right to alter one's mental states with the help of neuro tools as well as to refuse to do so" [29]. *Farahany* states that cognitive liberty encompasses "freedom of thought and rumination, the right to self-access and self-alteration, and to consent to or refuse changes to our brains and our mental experiences" [2]. The right thus does not protect the person's privacy but focuses on the person's agency over his or her mental development. *Farahany* argues that this right would help evaluate duties that might be imposed on individuals as neuroscience advances. She illustrates the current legal uncertainty by using the doctrine of avoidable consequences in tort law and the doctrine

of self-incrimination as examples. Should a person be obliged to take medication to prevent psychological damages caused by traumatic events? [2] How to evaluate the tension between the doctrine of self-incrimination and the obligation to participate in brain examinations, e.g. brain reading, to provide evidence? [30] She notes that the right to cognitive liberty would lead to more legal clarity and serve as a normative guideline for judges and policymakers when deciding these issues.

## Summary

There are different conceptualisations of neurorights and the proposed rights vary, as well as their scopes of protection. However, they tend to focus on integrity, privacy, and freedom of mental processes. The proponents of new human rights acknowledge that existing human rights partially protect these issues. Yet, they argue that there is no legal clarity or that the protection is insufficient and, therefore, new human rights should be introduced. The next section will analyse this claim in more detail, focusing on the right to freedom of thought and the right to mental self-determination.

## Neurorights as New Human Rights?

In this section, I will compare the proposed scopes of protection of neurorights with that of existing human rights to evaluate the necessity of introducing new human rights, focusing on the right to mental self-determination and the right to freedom of thought. The benefits and risks of introducing a new human right compared to further developing the interpretation of an existing human right will be discussed in a second step.

### Evaluating the Necessity of Introducing New Human Rights

To evaluate the necessity of new human rights, it is important to identify the existing human rights that are potentially relevant in this context and to determine their scopes of protection.

### *The Consideration of Relevant Existing Human Rights*

Several human rights are potentially relevant regarding the use of neurotechnologies, such as the right to

physical integrity (Art. 3, 8 ECHR, Art. 7, 9, 17 ICCPR) if the brain's substance is affected. In light of the aforementioned focus of the neurorights debate on integrity, privacy and freedom of mental processes, the right to mental integrity (Art. 3 ECHR, 7, 9 ICCPR),<sup>13</sup> the right to private life (Art. 8 ECHR, Art. 17 ICCPR),<sup>14</sup> the right to freedom of expression (Art. 10 ECHR, 19 ICCPR)<sup>15</sup> and the right to freedom of thought (Art. 9 ECHR, Art. 18 ICCPR)<sup>16</sup> are of particular interest. Each human right requires a careful analysis to determine its scope of protection and applicability regarding the use of neurotechnologies.<sup>17</sup> This paper focuses on the right to freedom of thought as an insightful example to illustrate the difficulties and possibilities in defining the scope of protection of existing human rights.

*Susie Alegre* advocates for a reconceptualization of the right to freedom of thought to address the challenges posed by neurotechnologies [38]. The author suggests that the right should comprise three elements.<sup>18</sup> Firstly, the right not to reveal one's thoughts (mental privacy dimension). Secondly, the right not to be penalised for one's thoughts. Finally, the right not to have one's thoughts manipulated. The scope of protection proposed by *Alegre* reminds of the scope of protection of the new human right to mental self-determination proposed by *Bublitz* [26]. The latter only adds a fourth dimension: no one has

claims on the rights holder's mind. Therefore, the next section will focus on the interpretation of the right to freedom of thought to evaluate the necessity of introducing a new human right to mental self-determination. This paper only compares the scope of protection of both rights, since *Bublitz* does not elaborate on interferences with the right to mental self-determination.<sup>19</sup> Furthermore, this contribution does not aim to make a conclusive statement about whether a new human right to mental self-determination should be introduced. This would require an examination of further existing human rights, in particular the right to private life (Art. 8 ECHR, Art. 17 ICCPR), which protects integrity, autonomy, and identity [41].

### *The Interpretation of Existing Human Rights – The Right to Freedom of Thought*

**A Neglected Right** The right to freedom of thought is codified in most human rights treaties, e.g. Art. 18 ICCPR, Art. 13 American Convention on Human Rights,<sup>20</sup> Art. 30 Arab Charter on Human Rights<sup>21</sup> and Art. 9 ECHR. Despite this prominence, the scope of that right has rarely been defined and remains unclear. The following analysis will focus on the interpretation of that right as enshrined in Art. 18 ICCPR and Art. 9 ECHR.

In its broadest sense, the right to freedom of thought includes the right to develop thoughts autonomously and free from impermissible external influence.<sup>22</sup> Thus, it seems suitable to protect against neurotechnological interventions. But until now, neither the Human Rights Committee (HRC) nor the ECtHR have defined with sufficient precision what freedom of thought encompasses. Even in recent years, with rapid progress in neurotechnologies, this right remains neglected. The “Guide on Artificial Intelligence” of the Human Rights Commissioner of the Council of Europe (CoE), for example, contains no reference to the right to freedom of thought [43]. Only a few authors discuss the scope of that right, especially with regard to the definition of thought [33, 34, 38,

<sup>13</sup> For an analysis of the applicability of Art. 3 ECHR regarding the use neurotechnologies, see: Sjors Ligthart [31].

<sup>14</sup> Sjors Ligthart, Thomas Douglas, Christoph Bublitz et al. [32]: The authors argue convincingly against the introduction of a new right to mental privacy because the existing jurisprudence of the ECtHR on Art. 8 ECHR provides sufficient protection or can be coherently further developed. However, the ECHR is a regional human rights instrument, and the presented reasoning leaves open whether this can also be said about the interpretation of Art. 17 ICCPR.

<sup>15</sup> Sjors Ligthart [33]: Considering the right to (negative) freedom of expression (Art. 10 ECHR) in cases of brain reading.

<sup>16</sup> Jan C Bublitz [34].

<sup>17</sup> The Council of Europe launched a strategic action plan which includes the assessment of the sufficiency of the existing human rights framework to address the issues raised by the application of neurotechnologies: [35]. Marcello Ienca [36], argues for the necessity of Neurorights. The International Bioethics Committee published a report on ethics and neurotechnologies in which it calls for the adaptation of existing human rights and, if necessary, the introduction of new human rights: UNESCO [37].

<sup>18</sup> For a similar interpretation, see: United Nations-General Assembly (UNGA) [40] para 25, adding as a fourth dimension that states should foster “an enabling environment for freedom of thought”.

<sup>19</sup> Bublitz only states that they can go beyond indoctrination, coercion and brainwashing, Bublitz [26] 401.

<sup>20</sup> *American Convention on Human Rights* adopted 22 November 1969 (entered into force 18 July 1978).

<sup>21</sup> *Arab Charter on Human Rights* adopted by the Council of the League of Arab States on 22 May 2004 (entered into force 15 March 2008).

<sup>22</sup> William A Schabas [42] Art. 18, para 10.

39]. *Alegre* proposes a broad definition of “thought” encompassing “emotional states, political opinions and trivial thought processes” [38]. The definition of the term “thought” is crucial to assess whether the protection of the right to freedom of thought is comprehensive enough or whether the introduction of a new human right to mental self-determination is necessary, which should protect the “entire mind, including emotions and non-rational processes” [26].

**The Term “Thought”** Some authors argue that a “thought” must have a certain quality or complexity to fall within the scope of protection of the right to freedom of thought, since this right is codified in the same article as freedom of conscience and religion [33]. A thought would thus be the result of a thought process leading to certain attitudes, ideas, and views that are not religious but significant to the individual’s way of life, e.g. political or philosophical [33]. This interpretation finds support in the jurisprudence of the ECtHR, which stated that “freedom of thought, conscience and religion denotes views that attain a certain level of cogency, seriousness, cohesion and importance”.<sup>23</sup> *William Schabas* held that Art. 18 ICCPR “requires State parties to refrain from interfering with an individual’s spiritual and moral existence”.<sup>24</sup> Some scholars argue that Art. 9 (2) ECHR protects “the manifestation of ‘religion and belief’, whereas expression of one’s ‘thought and conscience’ is protected by (and confined to) Art. 10 of the convention”, i.e. the right to freedom of expression [33, 34].

Not all mental processes would thus be protected, but only attitudes, ideas and views. Following this interpretation, the use of neurotechnologies to influence brain activity, e.g. through deep brain stimulation,<sup>25</sup> would only fall within the scope of protection of the right of freedom of thought if this affects these attitudes, ideas or views. The manipulation of emotions, for example, would probably not be protected. Brain reading, e.g. via portable EEG scanners,<sup>26</sup> does

not interfere with neural activity but only measures it and does thus not constitute an influence.<sup>27</sup> Brain reading might therefore rather be a matter of data protection and privacy or freedom of (non)-expression [32, 33]. Yet, the ECtHR and the HRC have stressed that freedom of thought, conscience and religion also includes the right not to reveal one’s thought, religion or belief.<sup>28</sup> With regard to the narrow understanding of freedom of thought, it could therefore be argued that specific brain data also enjoys protection. A narrow understanding of “thought” would thus protect particular mental processes and brain data. The introduction of a new human right to mental self-determination could therefore be necessary to protect mental processes and brain data that do not reach this threshold.<sup>29</sup>

On the other hand, there are indications in case law that “thought” should be interpreted rather broadly. The ECtHR ruled, for example, that because of the comprehensiveness of the concept of thought, the parents’ wish for their child’s name can be considered a thought.<sup>30</sup> Some scholars argue that this broad approach has not been followed in the subsequent jurisprudence of the ECtHR [33]. Still, this decision deals explicitly and exclusively with the right to freedom of thought, which is not the case in the subsequent judgements of the ECtHR on Art. 9 ECHR. Furthermore, the HRC states in its General Comment on Art. 18 ICCPR that thoughts “on all matters” are protected and that the protection is not limited to specific thoughts, e.g. political [45]. One could argue that the HRC thereby did not discard the criterion of complexity and that thoughts on all matter must nevertheless have a certain quality to fall within the scope

<sup>23</sup> *Leela Förderkreis E.V. and others v. Germany*, App No 58911/00 (ECtHR 6 November 2008) para 80; *Campbell and Cosans v. the United Kingdom*, App no 7511/76; 7743/76 (ECtHR 25 February 1982) para 36.

<sup>24</sup> Schabas [42] on Art. 18, para 20.

<sup>25</sup> See above Introduction.

<sup>26</sup> See above Introduction.

<sup>27</sup> However, knowing that one’s thoughts are being read could lead to the avoidance of certain thoughts, and may thus also constitute an interference. UNGA [40] para 54: speaks about “self-censorship”.

<sup>28</sup> *Sinan Işık v. Turkey*, App. No. 21924/05 (ECtHR 2 May 2010) para 42; UN Human Rights Committee (HRC) [45], para 3.

<sup>29</sup> A conclusive statement on this would require a careful analysis of the scope of protection of the right to private life (Art. 8 ECHR, Art. 17 ICCPR), which also protects personal data and privacy and could provide adequate protection (see Rainey et al. [41]), as well as the right to freedom of (non)-expression, see Lighthart [33].

<sup>30</sup> *Salonen v Finland* App no 27868/95 (ECtHR 2 July 1997) para 2; *Alegre* [38].

of protection of Art. 18 ICCPR. However, the question arises to what extent the definition of thought as the result of a thought process is convincing.<sup>31</sup> Can and should a distinction between thought and thought processes be made? It could be argued that any influence on neurons potentially affects the outcome of a thought process and should therefore be protected by the right to freedom of thought. “Thought” should thus encompass any mental process [34, 38, 39]. Following this interpretation, any use of neurotechnologies to influence brain activity would fall within the scope of protection of the right to freedom of thought. Furthermore, all kinds of brain data would be protected against disclosure. This broad definition of thought would provide wide-ranging protection, and the introduction of a new human right to mental self-determination would not seem necessary in this regard.

Another argument in favour of a broad definition of “thought” is the use of the term in everyday language. When interpreting an international treaty, including human rights treaties such as the ICCPR and the ECHR, the treaty’s wording, purpose, and context need to be considered, Art. 31–33 Vienna Convention on the Law of Treaties (VCLT).<sup>32</sup> The use of the term “thought” in everyday language is not necessarily associated with a mental process of a certain complexity or importance.<sup>33</sup> For example, a person would say, “I was thinking about buying these apples”, and would consider this as a thought, even though it does not have a certain complexity and importance to the person’s way of life. Thoughts with a certain quality or complexity are rather called beliefs or opinions.<sup>34</sup> Therefore, it is also systematically more convincing

that thoughts of a certain quality and complexity are encompassed by the right to freedom of belief or freedom of opinion and that “thought” must be understood more comprehensively. It is argued here that it is consistent with the purpose of the norm, which is to protect the forming and holding of thoughts, to understand freedom of thought as protecting mental processes *per se*.

### Interferences with the Right to Freedom of Thought

If thoughts were defined as all mental processes, it would be necessary to elaborate further on what constitutes a permissible influence, especially because interferences with that right cannot be justified [45, 49].<sup>35</sup> The distinction between permissible and impermissible influence is difficult because people are always influenced, e.g. by their environment, the media or personal relationships. Schabas argues that “influencing is, in any event, impermissible when it is performed by way of coercion, threat or some other prohibited means against the will of the person concerned or without at least his or her implicit approval”.<sup>36</sup> Sanctioning thoughts, negative consequences for holding certain thoughts or claims to be in a specific mental state could be considered coercion.<sup>37</sup> Regarding the use of neurotechnologies to alter and/or read brain activity, the consent of the person affected could be required and that these technologies cannot be used against the will of the person. Some authors argue that such interpretation would make necessary but forced medical assistance impossible.<sup>38</sup> However, regarding the prohibition of torture or cruel, inhuman or degrading treatment or punishment (Art. 3 ECHR, Art. 7 ICCPR), which is also absolute, some cases of forced medical assistance do not constitute an interference.<sup>39</sup> These considerations and differentiations could be useful when examining whether forced medical treatments intended, for

<sup>31</sup> There is still no scientific consensus on what thoughts are and how they are formed. Peter Carruthers, for example, argues that thoughts are “amodal, abstract events, meaning that they are not sensory experiences” and that they do not become conscious, see: Steve Ayan [46].

<sup>32</sup> *Vienna Convention on the Law of Treaties* adopted by the UN General Assembly on 23 May 1969 (entry into force 27 January 1980); Schabas [42] Introduction, para 16, 17; David Harris, Michale O’Boyle, Colin Warbrick et al. [47], 5.

<sup>33</sup> Edgar W Vinacke, Daniel E Berlyne and Robert J Sternberg [48]: “Thought, or thinking, is considered to mediate between inner activity and external stimuli. In everyday language, the word thinking covers several distinct psychological activities”.

<sup>34</sup> In this direction: Schabas, [42] on Art. 19, para 9: “The private freedom to have and form opinions thus overlaps with freedom of thought guaranteed by Art. 18. Freedom of thought, therefore, contributes to freedom of opinion in that opinions usually represent the result of a thought process”.

<sup>35</sup> Considering the debate on epistemic rights could be useful when addressing this issue. The debate turns around the question who is entitled to which information, knowledge, or truth, and how to protect knowers and knowns individually and collectively: [45, 49] Mathias Risse [50]; Catherine Kerner and Mathias Risse [51].

<sup>36</sup> Schabas [42] on Art. 18, para 10. This includes for example cases of indoctrination, see also: Christoph Grabenwarter [52], on Art. 9, para 5.

<sup>37</sup> Schabas [42] on Art. 18, para 19; HRC [45] para 5.

<sup>38</sup> Christoph Bublitz [53], 1316; see also: Lighthart [33] 17.

<sup>39</sup> Harris, O’Boyle, Warbrick [47] 99; Schabas [42] on Art. 7 ICCPR, para 26.

example, to restore the person's capacity to perform certain mental processes, constitute an interference with the right to freedom of thought. Similar concerns were raised regarding the non-consensual use of brain-scanners in criminal proceedings. *Sjors Lighthart* argues that the term "thought" should be interpreted narrowly and proposes that these applications should be considered under the right to freedom of (non)-expression (Art. 10 ECHR, 19 ICCPR), since interferences with that right can be justified [33]. It is argued here, as outlined above, that a broad interpretation of the term "thought" is more convincing. The specifics of non-consensual use of neurotechnologies (e.g., forced medical assistance or the use of brain scanners in criminal proceedings) can be considered when assessing whether there is an interference with the right to freedom of thought, but do not contradict a broad interpretation of the term "thought". To assess whether there has been an interference with the right to freedom of thought, *Bublitz* proposes a two-fold test [34]. First, there must be a negative effect on the "thoughts" or cognitive abilities of the person concerned, i.e. a certain threshold must be exceeded. Secondly, the level of control of the affected person needs to be considered, i.e. the extent to which the intervention undermines or bypasses the person's control. The *Special Rapporteur on freedom of religion or belief*, Ahmed Shaheed, proposes four factors to evaluate the permissibility: consent, concealment or obfuscation, asymmetrical power and harm (or effect) [40]. These approaches could be a starting point to create coherent and useful limits regarding the use of neurotechnologies. A detailed examination of different practices, contexts and intentions is necessary to examine for different applications and uses of neurotechnologies whether they interfere or not with the human right to freedom of thought. If there is no interference with the right to freedom of thought, there might still be an interference with the right to freedom of (non)-expression (Art. 10 ECHR, Art. 19 ICCPR) or other rights, e.g. the right to private life (Art. 8 ECHR, Art. 17 ICCPR).

### Summary

There are several existing human rights that are potentially relevant regarding the use of neurotechnologies. The analysis of the right to freedom of thought revealed that due to the few cases and lack of conceptualisation, there is no clarity about the scope of protection of that

right. However, it has been demonstrated that the right to freedom of thought, i.e. the term "thought", can be coherently interpreted as protecting all mental processes. Consistent approaches to evaluate whether there has been an interference with this human right have been proposed and remain to be further elaborated. The human right to freedom of thought protects against manipulation, brain reading and coercion, e.g. the sanctioning of thoughts. The protection of that human right outlined by *Alegre* is thus convincing. When comparing the scope of protection of the right to freedom of thought with the proposed scope of the right to mental self-determination, the latter would not provide a higher level of protection and introducing such a new human right does thus not seem necessary in this regard.

The proponents of neurorights tend to prefer to remedy the lack of clarity in the human rights framework with the introduction of new human rights rather than evolving the interpretation of existing human rights.<sup>40</sup> In this light, it is worth raising some general considerations on the advantages of introducing new human rights compared to evolving the interpretation of existing human rights.

### Legal Recognition and Evolving Interpretation of Human Rights

In this section, the complexity of introducing new, legally enshrined human rights will be outlined and distinguished from the evolution of existing, legally enshrined human rights before discussing the advantages and risks associated with the introduction of new human rights, focusing on the proposed new human right to mental self-determination.

#### *The Multi-layered Process of Introducing New Human Rights*

The introduction of new human rights can be understood as a process with various actors involved and

<sup>40</sup> Sometimes the authors propose both: *Bublitz* [26] argues, for example, for the introduction of the right to mental self-determination, but also for a reinterpretation of the right to freedom of thought, see *Bublitz* [34]. *Ienca and Andorno* [21] propose a reconceptualisation of the existing human right to mental integrity besides the introduction of three new human rights.



different levels of legal recognition.<sup>41</sup> Human rights activists and scholars are often the first to demand new human rights [19, 54]. A first step towards the legal recognition of a new human right and a change in international law can lie in the incorporation of the proposed new right in a *soft law* document. Soft law is not legally binding *strictu sensu* [55]. However, it has special features and advantages. It provides, for example, guidelines for the interpretation of international law and can address private parties, such as the *United Nations Guiding Principles on Business and Human Rights*.<sup>42</sup> It is flexible and easy to adopt, making it well suited for areas that are rapidly evolving or changing, or where states have consensus but are reluctant to make binding commitments [56, 57]. Furthermore, it has a moral authority and creates a standard of expectation [57]. It often constitutes the basis for the evolution of customary international law or the adoption of a treaty [58, 59]. A new human right could also emerge as a customary norm, but it is difficult to prove sufficient state practice and/or *opinio iuris* [60, 61]. Therefore, adopting a new international treaty or protocol or modifying an existing human rights treaty is a more common approach for introducing new human rights. The legal recognition of new human rights can also be driven by international adjudication bodies, like the ECtHR or UN treaty bodies, e.g. through a General Comment or through the interpretation of existing human rights (derivation) [19, 57, 62]. However, there are limits to the introduction of new human rights by adjudication bodies. The interpretation must still be covered by the initial consent of the state; besides, regarding the ICCPR, in most states the interpretations of UN treaty bodies are not legally binding and need to be accepted by states parties [63, 64, 65].

*Theo van Boven* argues in favour of a narrow understanding of new human rights and a distinction to

“newly focused human rights” [66].<sup>43</sup> The ECtHR and the HRC, for example, have stressed that the ECHR and the ICCPR are “living instruments” and their provisions should be “applied in context and in light of the present-day conditions”.<sup>44</sup> This implies that the meaning of the conventions’ provision can change over time and be adapted to new situations and social change [68, 69]. Besides evolutive interpretation, there are further methods used by the ECtHR and the HRC to elaborate the interpretation of existing human rights, e.g. essence of rights or effectiveness [70, 71, 72, 73]. This leads to changes in case law and a “refocusing” of existing human rights.<sup>45</sup> But also a treaty or soft law declaration can “refocus”, i.e. evolve the interpretation, of existing human rights. The *Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)*,<sup>46</sup> for example, recognises specific human rights dimensions related to a particular group, i.e. women and girls [66]. Other examples are the *Universal Declaration on Bioethics and Human Rights*<sup>47</sup> and the *Convention on Human Rights and Biomedicine*<sup>48</sup> which stress the importance of existing human rights, e.g. the right not to be discriminated against or the right to privacy, in the context of biomedicine and

<sup>43</sup> Jens T Theilen [67] discusses how to distinguish evolutive interpretation from “overexpansive” interpretations and questions the possibility to draw a line [66].

<sup>44</sup> *Tyrer v UK*, App no 5856/72 (ECtHR 25 April 1978) para 31: The Convention is a “living instrument [...] which must be interpreted in the light of present-day conditions”. *Roger Judge v. Canada*, CCPR/C/78/D/829/1998 (HRC 13 August 2003) para 10.3: The Covenant “should be interpreted as a living instrument and the rights protected under it should be applied in context and in the light of present-day conditions”. Harris, Boyle, Warbrick et al. [47], 17: The *travaux préparatoires* and historical arguments are secondary for the interpretation of the Convention.

<sup>45</sup> An example for the refocusing of a human right could be seen in the interpretation of Art. 8 ECHR with regard to environmental protection, see: Grabenwarter [52] on Art. 8, para 18. For more examples, see: Rainey et al. [41] 70, 75; Schlütter [71] 311: on introducing substantive new dimensions to existing human rights, using conscientious objection as an example.

<sup>46</sup> *Convention on the Elimination of All Forms of Discrimination against Women* adopted by the UNGA on 18 December 1979 (entry into force 3 September 1981).

<sup>47</sup> *Universal Declaration on Bioethics and Human Rights* adopted by the UNESCO on 19 October 2005.

<sup>48</sup> *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, 4 April 1997 (entry into force 1 December 1999).

<sup>41</sup> Von der Decken and Koch [19] 8: The different levels of recognition are the idea, the emergence, the full recognition (grounded in a formal source of public international law), while not every right might pass all three stages. The formal sources of public international law are those mentioned in Art. 38 of the *Statute of the International Court of Justice* (adopted 26 June 1945, entry into force 24 October 1945).

<sup>42</sup> United Nations Human Rights Council, ‘Guiding Principles on Business and Human Rights’ (June 2011), <[https://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR\\_EN.pdf](https://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf)> accessed 01 August 2022.

genetics.<sup>49</sup> Thus, introducing new human rights can be distinguished from “refocusing” existing human rights, i.e., evolving their interpretation, although the distinction is often difficult to draw; especially, because newly (pro)claimed human rights are “rarely disconnected entirely from more established rights” [67].

A scholarly discourse, a general comment, interpretative guide or judicial decision, as well as a soft law declaration, protocol or treaty, can introduce a new human right, but can also evolve the interpretation of an existing human right. The different possibilities of introducing new human rights or evolving the interpretation of existing human rights go hand in hand. A soft law document, for example, that recognises a new human right can also evolve and strengthen the interpretation of an existing human right.<sup>50</sup> Such considerations could help overcome the perceived dichotomy between introducing new human rights and interpreting existing human rights and lead to a more hybrid approach in the neurorights debate.

#### *Benefits and Risks of Introducing a Human Right to Mental Self-Determination*

The main reason for introducing new human rights is that the existing human rights provide insufficient protection [54, 78]. With regard to the proposed right to mental self-determination, *Bublitz* argues primarily that the introduction of that new human right could close the current gaps in the protection and lead to enhanced legal clarity [26]. It has been demonstrated above that the current international human rights framework ignores the threats that developments in neurotechnologies pose to human rights, such as the right to freedom of thought,<sup>51</sup> whereas with regard

to genetic research, for example, two soft law declarations, the *Universal Declaration on the Human Genome and Human Rights* and the *International Declaration on Human Genetic Data*, have been adopted.<sup>52</sup> However, as outlined in the previous section, not only the introduction of a new human right can remedy the lack of legal clarity and potential gaps in the protection, but also the interpretation of existing human rights, i.e. adaptation to the “present-day conditions”.<sup>53</sup> The right to freedom of thought already provides a normative basis for the use of neurotechnologies and an evolving interpretation of that right could remedy the lack of legal clarity. It has been demonstrated that the right to freedom of thought can be coherently interpreted as providing a wide range of protection of mental processes.<sup>54</sup> A soft law declaration on “Human Rights and Neurotechnology” adopted by states or an international organisation could, for example, highlight the importance of the right to freedom of thought regarding the use of neurotechnologies and stimulate an evolving interpretation.<sup>55</sup> Furthermore, *Bublitz* only sketches the scope of protection of the right to mental self-determination and leaves many questions open [26].<sup>56</sup> Therefore, it is not convincing that the introduction of a new human right would *per se* lead to more legal clarity and a higher level of protection.<sup>57</sup>

<sup>49</sup> The ECtHR referred to the *Universal Declaration on Bioethics and Human Rights* and the *Convention on Human Rights and Biomedicine* in a judgment on reproductive medical treatments (sterilisations) and the interpretation of Art. 8 ECHR but has not yet introduced any new “genetic right”, see: *Evans v United Kingdom* App no 6339/05 (ECtHR 10 April 2007). For an analysis of “genetic rights”, see: Roberto Andorno [74], 345.

<sup>50</sup> One example are the resolutions of the UN Human Rights Council on the right to a healthy environment and the “greening” of existing human rights, see: Nora Jauer [75]; Elena Cima [76]. On the importance of soft law in the case law of the ECtHR for demonstrating consensus, see: Angelika Nußberger [77]; Helfer [63]; Tzevelekos [59].

<sup>51</sup> See above section “The Interpretation of Existing Human Rights – The Right to Freedom of Thought”.

<sup>52</sup> The *Universal Declaration on the Human Genome and Human Rights* adopted by the UNESCO on 11 November 1997; *International Declaration on Human Genetic Data* adopted by the UNESCO on 16 October 2003. For a deeper analysis of the declarations, see: Fruzsina Molnár-Gábor [79], 218 et seq; see also: Silja Vöneky [80], 368.

<sup>53</sup> See above *Tyrer v UK* (n 42).

<sup>54</sup> See above section “The Interpretation of Existing Human Rights – The Right to Freedom of Thought”.

<sup>55</sup> This is also proposed by the Special Rapporteur on freedom of religion or belief, UNGA [40] para 96. Beyond this, the question of the implementation of the right to freedom of thought and the establishment of a governance framework arises. See, for example, Philipp Kellmeyer [81], arguing for making existing human rights more actionable and justiciable. For a comprehensive proposal for brain data governance, see: Marcello Ienca, Joseph J Fins, Ralf J Jox et al. [82]. One of the first efforts to govern neurotechnologies are the recommendations of the Organisation for Economic Co-operation and Development (OECD): OECD [83].

<sup>56</sup> For this critique, see also: Michalowski [84] 410.

<sup>57</sup> For this critique, see also Hurst Hannum [85], 436: stating that the concrete obligations of states are not made clearer by introducing new human rights.

Another argument often put forward is that the adoption of new human rights can emphasise the commitment of states and create a consensual basis, especially when introduced in a treaty [19, 57]. However, the new human right, introduced through a soft law document, protocol, or treaty, must be negotiated and accepted, and consensus is not easy to achieve. It might be easier to agree on the meaning and importance of an existing human right. Furthermore, negotiations on new human rights could be misused to change or weaken existing human rights. The right to mental self-determination [26], for example, is not conceptualised as an absolute right,<sup>58</sup> like the right to freedom of thought,<sup>59</sup> and the protection might therefore be weaker, as interferences can be justified and individual interests can be balanced against public interests or goods, such as public health.

Another important argument put forward in favour of new human rights is that the claim for new human rights can be used as an advocacy tool to draw attention to a human rights problem, which might result in better protection.<sup>60</sup> Furthermore, the claim can strengthen one specific aspect of an established human right. *Mart Susi* therefore argues that new human rights are characterised by a decrease of abstractness and/or a decrease of universality [54]. Here, the general and fundamental critique against the introduction of new human rights, the risk of *rights inflation*, should be considered.<sup>61</sup> This states that not everything that is morally desirable should be conceptualised as a legal human right [21, 85, 87].<sup>62</sup> A large number of human rights leads to high compliance and monitoring burden and may compromise the effective protection of those human rights that are truly fundamental

[88]. Therefore, the introduction of new human rights may not always strengthen the human rights system but may even weaken it.<sup>63</sup> Some proponents of neurorights claim that this argument does not fit the situation because the proposed rights are already tacitly included in the existing human rights [21, 89]. This, however, seems to be an argument in favour of the interpretation of existing human rights rather than for the introduction of new human rights.

### Summary

The process of legal recognition of new human rights is complex, and the introduction of new human rights is not per se more advantageous than the interpretation of existing human rights. With regard to the human right to freedom of thought and the proposed human right to mental self-determination, it is more convincing to evolve the interpretation of the former, e.g. by a general comment, protocol or soft law document, than to introduce a new human right to mental self-determination. However, the introduction and evolution of human rights are intertwined, and the introduction of a new human right to mental self-determination, e.g. in a soft law declaration, would probably also evolve the interpretation of the right to freedom of thought.

### Conclusion and Outlook

The debate on neurorights stimulates the necessary discussion on the extent to which existing human rights provide sufficient protection of the mind in the twenty-first century. This brief analysis highlighted the complexity of comparing the scope of protection of neurorights and existing human rights and assessing the necessity and advantages of introducing new human rights. The conceptualisations of neurorights vary, and their scope of protection often remains unclear. Yet, they tend to focus on integrity, privacy, and freedom of mental processes. Several existing human rights protect these aspects, and each of them requires a careful

<sup>58</sup> Bublitz argues that the absolute nature of the right to freedom of thought impedes its practical relevance, see: Bublitz [34] 30, 31.

<sup>59</sup> See above "The Interpretation of Existing Human Rights – The Right to Freedom of Thought".

<sup>60</sup> Susi [54] 26: speaks about "Discursive Practice"; see also: Andreas von Arnould and Jens T Theilen [86], 35: stating that claims for new rights are often „rhetorical rather than juridical“.

<sup>61</sup> Anne Peters [87], 393: Peters proposes a differentiation between human rights and international subjective rights to overcome this problem. A famous proposal for quality control of new human rights was made by Alston [78].

<sup>62</sup> Currently, the introduction of other new human rights is also being discussed, e.g. the right to a healthy environment or the right to development.

<sup>63</sup> On the other hand, rights inflation might not only be an objection to the introduction of new rights but also to the "overexpansive" interpretation of existing rights (expansionism), see: Theilen [67] 840 et seq: The author also warns against the politization of the inflation objection and a "mind-set of gatekeeping".

analysis to determine its scope of protection and their applicability regarding the use of neurotechnologies.

The comparison between the scope of protection of the existing human right to freedom of thought and the proposed new human right to mental self-determination revealed that introducing this new human right would not necessarily lead to a higher level of protection. It has been argued that the scope of protection of the right to freedom of thought can be coherently interpreted in a broad way as protecting all mental processes from impermissible influence and this right therefore provides a normative basis regarding the use of neurotechnologies.

The considerations on the introduction and evolution of human rights illustrated that it cannot be concluded at this stage that introducing a new human right to mental self-determination leads to more legal clarity and is generally more beneficial than interpreting the right to freedom of thought. Instead of introducing a new human right to mental self-determination, it is more convincing to evolve the interpretation of the right to freedom of thought. The interpretation can be driven by judicial bodies, e.g. in their judgements, a general comment or interpretative guide, or by states and international organisations, e.g. in a soft law declaration or protocol to an existing treaty.

Further research on interferences with the right to freedom of thought and its interrelation with other human rights is needed, in particular the right to freedom of expression (Art. 10 ECHR, 19 ICCPR) and the right to private life (Art. 8 ECHR, Art. 17 ICCPR). There might be gaps in the protection in this respect, which could be addressed by introducing new human rights. Therefore, more research on the scope of protection of existing human rights and further attempts to conceptualise neurorights are needed to clarify the normative requirements regarding the use of neurotechnologies.

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