Cognitive Liberty or the International Human Right to Freedom of Thought

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Abstract

The aim of the chapter is to draw attention to a fundamental right that is neglected in the law but that is highly relevant for neuroethics: cognitive liberty or freedom of thought. Although an internationally accepted human right, it has not gained practical legal importance. However, any regulation of neurotechnologies has to be evaluated in its light. As the right is unfamiliar to policy makers and even to many lawyers and legal scholars, its historical development and the main arguments for its recognition are sketched. Furthermore, some suggestions for its

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interpretation, scope, and contours are forwarded and remaining open questions identified. According to international human rights law, the right is of absolute nature so that interferences cannot be justified for interests of the common good or paternalistic reasons. Whether this strict prohibition of intervening into other persons' minds can and should be sustained even in light of putative pressing public interests and various neuroethical considerations is one of the novel questions neuroscience poses for the law.

Introduction

"Thought is free" ranks among the prominent tenets of western philosophical and political thought, found in writings and speeches from Cicero and Shakespeare to solemn political proclamations. Freedom of thought is a big, influential, and, at the same time, an amorphous idea. It is not always evident what people mean when they allude to it. For one, it can describe a factual property of psychological entities called thoughts. "Thought is free" is then a statement that can be true or false, depending on the conditions of freedom and their realization, with freedom mainly pertaining to the independence of thoughts from constraints or determining causes. In a different sense, freedom of thought designates a normative claim, thoughts *shall* be free. As a right, it imposes duties on persons, primarily to refrain from interferences with thoughts and thinking processes of someone else. Freedom, in this normative sense, means that others do not have legal claims over thoughts of another person. The manifold statements praising freedom of thought do not often keep factual and normative meanings separate. At times, freedom of thought is even used interchangeably with nearby concepts such as freedom of speech. Of present interest is the normative sense: cognitive liberty as a political demand for liberty of thought. Still, it is worth pondering briefly over the first meaning too. What does the view that thought is free, widely held in commonsense psychology, mean?

Most of the time, we experience our thoughts as free, for instance, when we rather passively observe thoughts popping up and vanishing in our stream of consciousness. This phenomenological freedom seems to result from the absence of any felt causes or constraints of thoughts. Moreover, thinking is an activity, comprising a bundle of diverse mental capacities over which we have powers and conscious control to varying degrees. We possess some powers to direct our thoughts, e.g., when we deliberately set out to think about an issue or use our imagination. Although we do not normally think which thoughts we will entertain next – which would itself constitute a thought and would lead into an infinite regress – we can roughly steer the contents of subsequent thoughts and thus seem to think what we want and to be in control of our thoughts. At other times, by contrast, we cannot fully grasp our thoughts, suppress unwanted thoughts from circling through our heads, or stop the wandering of our mind. In those cases, control over thoughts is limited; hence, they might appear as "unfree." Apart from those and other (pathological) cases, the feeling of freedom of thought is an inescapable aspect of our everyday conscious experience.

In another sense, thoughts are free because of their private character. No one else knows the content of thoughts in the same way as the thinker does. Thoughts are not directly observable for others; they can only be inferred from verbal or behavioral expressions. In addition to this privileged epistemic access that confers authority over the knowledge of one's thoughts, privacy of thoughts can also mean that others cannot control our thoughts because they are inaccessible from the outside. It seems impossible to compel another person to entertain a particular thought or to implant ideas or opinions. One can speak to another person, irritate, annoy, or bombard her with all kinds of stimuli, but such interventions are so imprecise and indirect that they can be blocked by inner countermeasures in all but the most extreme cases. These characteristics of thought seem to roughly capture what is commonly meant by freedom of thought. They are nicely condensed in the lines of an old German folk song: *No scholar can map them/No hunter can trap them/No man can deny*: *Die Gedanken sind frei*! (*Thoughts are free*).

These properties of thoughts loosely map onto two forms of freedom that are typically distinguished: internal freedom as independence from inner causes or influencing factors such as emotions and external freedom as the absence of external forces that can monitor or alter thoughts. Some of the apparently familiar characteristics of thought just mentioned raise deep philosophical questions: In which way do we have privileged access to our thoughts – is thinking something like inner perception of mental objects? Can we sometimes err about our thoughts? Might not the external world determine the content of our thoughts? What is the relation between thought and thinker? And what are thoughts anyway? These questions already indicate that our intuitive idea of freedom of thought is in need of further exploration.

The picture of thoughts and the mind as an invincible realm of inner freedom, an inner citadel to which the world has no entrance, is in many ways questionable and misleading. It is deeply rooted in a Cartesian dualism of mind and matter. However, since the day's of Freud, psychology assumes to various degrees that thoughts are generated by a complex and largely unconscious psyche which apparently follows its own rules and dynamics. For instance, thoughts do not line up randomly but seem to stand in some relation to one another, yet we are often unable to introspectively identify the corresponding rule. Today, neuroscience approaches the workings of the mind via its material substrates on various levels, from the connectivity of brain networks down to molecular mechanisms. Irrespective of whether or not reductionist strategies will ever succeed in providing a complete explanation of mental phenomena including thoughts, the initially appealing idea of thoughts being independent from internal causes and influences cannot but appear as a naïve folk psychological belief, based on the transparent bounds of introspection that conceal the operations of the mind and brain from the inward gaze.

Furthermore, many psychological processes are not under direct conscious control. We cannot, e.g., alter our mood at will. Some types of thoughts, such as beliefs and opinions, are not free in the sense that we can bring them about

voluntarily because they adhere to rules of logic or semantics. And of course, many of our desires are not under our voluntary control either. Even those mental capacities that are consciously controllable such as reasoning, remembering, or calculating are limited nonetheless as they require depletable mental resources. Thus, although we have varying degrees of conscious control over our minds, including our thoughts, our internal freedom is limited in many ways.

Likewise, we may not enjoy a strong form of external freedom. Our thoughts are not sealed off from the outside world. Although thought control in the strict sense of directly controlling the content of another's thoughts is not (yet) possible, there are many indirect ways, from classic conditioning to psychoanalysis and cognitive therapy, that may can effectively change the way people think. The neurobiology of the brain has been targeted by more direct means since the days of crude forms of psychosurgery in the 1930s which proved that the mind is not out of reach of external forces.[1] At least since the pharmacological revolution of the 1950s, interventions aiming at altering mental states, capacities, and thoughts are widely employed by the state and psychiatry, not always based on consent of affected persons. While pharmaceuticals allow modulating some properties of thought such as speed or style of thinking, novel interventions afford targeting thoughts more specifically. Deep brain stimulation (DBS) may give a glimpse of the near future. In studies, stimulation altered recurrent obsessive-compulsive thoughts as well as thoughts related to depression and anorexia nervosa (Lipsman et al. 2013; Schlaepfer et al. 2007). Moreover, if the hypothesis of "concept cells," neurons that respond to particular concepts or ideas, proves correct, stimulation of particular neurons may enable to elicit specific thoughts (Quiroga 2012). Even though thought control is still far off, it seems that the degree to which thoughts can be accessed or altered through interventions on the biological level is merely a contingent matter.

Freedom of Thought

The advent of tools that confer more powers over our own and other's mental realm leads to the normative sense of freedom of thought. The question no longer is whether it is possible to change thoughts, but rather who should be allowed to do so, by which means, and for which purposes. In order to regulate novel mind-altering tools and to evaluate existing regulations, the law has to confront a fundamental question: What is the legal relation of a person to her mind? Which legal (and enforceable) claims do others, including the state, have over the mind of someone else? The topic is rarely addressed in this abstract way. Sometimes, it is couched in terms of "ownership" of minds, but in a strict sense, one cannot "own" one's mind in the same ways one can have – and sell or relinquish – property in external things.

[1]For the history of psychosurgery and electrical brain stimulation, see Valenstein 1974; Delgado 1969.

The relationship between a person and her mind is qualitatively different. After all, if our very existence is, as one may understand Descartes' "cogito" argument, predicated upon our thinking, what could be more constitutive of a person than her mind and mental states?

Advocates of cognitive liberty demand that the individual should enjoy a wide range of autonomy over what is on – and in – her mind. The term was coined by civil right activists of the Center for Cognitive Liberty and Ethics (CCLE). Their central vision has been elucidated in a series of programmatic papers by Richard Boire and Wrye Sententia (Boire 1999, 2000, 2001, 2005; Sententia 2004), in short: To secure "the right to control one's own consciousness [as] the quintessence of freedom."

Historical Glance

In the last decade, "cognitive liberty" has become a political slogan in support of various related causes such as the decriminalization of psychoactive substances or restrictions of involuntary interferences with other minds, from advertisement to coerced psychiatry. The underlying idea, however, is anything but new. Abstractly, it is best understood as the postulate that other persons – or the state – do not have claims over the contents of other persons' minds. Variations can be traced throughout the history of ideas. An early formulation is a maxim of Roman law: *cogitationis poenam nemo patitur*, no one shall be punished for his thoughts alone. It restricted punishable offences to outward behavior and liberated thoughts and opinions from the sovereign's control to some extent. In Christian theology, the freedom to (not) believe in the truth of scripture and the question whether force can and should be used to compel disbelievers to change purportedly errant beliefs were a recurrent theme since Augustine. In medieval times, competing ecclesial and worldly authorities delineated their jurisdictions and purviews of power such that the church took care of saving souls (so-called forum internum), whereas worldly authorities regulated external actions (forum externum). Thereby, the mind was placed outside the reach of worldly powers. It was one of the major goals (and achievements) of the Reformation to free the forum internum from ecclesial authority by proclaiming a direct connection between the conscience of man and God. Because God was held to rule directly through the individual's conscience, the mediating role of the church could be circumvented. The acceptance of freedom of belief and conscience and its exemption from access by authorities was a prerequisite of toleration, the basis to end religious strifes that rippled Europe for centuries. Historically, freedom of belief and conscience are conceived as the first human rights.[2]

Freedom of thought is, of course, the overarching motto of the Enlightenment, expanding freedom of belief to opinions on nonreligious matters. Kant famously

[2]For the history of freedom of thought up to the early twentieth century, see Bury 1952.

answered the question "what is enlightenment" with the claim that everyone ought to dare thinking for themselves. The demand of freedom of thought was a key element in the political struggles that paved the way for modern western democracies, and it was understood broadly as the uncensored exchange of ideas, freedom from persecutions for holding and voicing opinions, and freedom of expression and the press. Today, these freedoms are firmly established and well-defined guarantees of the human rights system and are protected by freedom of speech and expression which often entail the freedom to "hold opinions without interferences."[3]

Freedom of thought as such, however, has never received much attention although the mind has always been a central point of political, ideological, and social struggles. States always had an interest in mentally disciplining citizens. As Spinoza wrote, those rulers "exert the greatest power who reign in the hearts and minds of their subjects" and "were it as easy to control people's minds as to restrain their tongues, every sovereign would rule securely" (Spinoza 2007, p. 208). One of the first horrific examples of the extent to which the human mind can be forcefully bent was provided by Maoist thought-reform programs that successfully altered people's opinions through a mixture of deprivation, indoctrination, and sophisticated psychological means (Lifton 1989; Taylor 2006). The west responded to this communist "brainwashing" with research efforts, among others the infamous clandestine US MKUltra program which conducted experiments with mind-altering techniques, sometimes on unknowing subjects (Marks 1992; for behavioral modification Macklin 1981). Aware of the importance of neurobiology, psychologist William Sargant wrote about the ideological battle during the cold war that "the political-religious struggle for the mind of man may well be won by whoever becomes most conversant with the normal and abnormal functions of the brain and is readiest to make use of the knowledge gained" (Sargant 1997).

The International Human Right to Freedom of Thought

The importance of the mind has been reflected in human rights law. The freedom of the inner realm has been expanded from religious beliefs and conscience to thoughts in general. Article 18 of the Universal Declaration of Human Rights, adopted in 1948, explicitly guarantees that "everyone has the right to freedom of thought, conscience and religion." In an almost identical wording, it has been incorporated into almost every human rights treaty[4] and is thus a binding – and in

[3]Art. 19 Universal Declaration of Human Rights (UDHR); Art. 19-1 International Covenant on Civil and Political Rights (CCPR).

[4]Art. 18-1 CCRP; Art. 9-1 European Convention on Human Rights (ECHR); Art. 13 American Convention on Human Rights.

theory, effective – universal human right.[5] Many national constitutions, however, do not explicitly recognize such a right on the domestic level.[6] Reference to freedom of thought is nonetheless made sometimes in decisions of high courts. The US Supreme Court, for instance, held that freedom of thought "is the matrix, the indispensable condition, of nearly every other form of freedom. With rare aberrations a pervasive recognition of this truth can be traced in our history, political and legal."[7] These words sound as if freedom of thought was understood as a general principle of law. However, it is often not mentioned in cases prima facie affected by it. As an effective legal right, the appealing yet vague idea needs to be rendered more precise.

What does being entitled to think freely mean? Courts have never defined content and scope of the right in more detail. Even legal scholarship only provides some approximations. According to (nonbinding) commentaries of human rights treaties, it affords the "freedom to entertain any thought [or] moral conviction."[8] In combination with conscience and belief, freedom of thought "cover[s] all possible attitudes of the individual towards world and society"; it protects the "absolute character of the freedom of an inner state of mind"[9] and the liberty to "develop autonomously thoughts and conscience free from impermissible external influence" (Nowak 2005, p. 412). Accordingly, it prohibits being "subjected to treatment intended to change the process of thinking," "any form of compulsion to express thoughts [or] to change an opinion" (Vermeulen, supra, p. 752), or influence "of the conscious or subconscious mind with psychoactive drugs or other means of manipulation" (Nowak 2005, p. 413). In short, freedom of thought provides protection against severe interventions into minds that aim at altering thoughts or thinking processes and thereby opposes the use of most novel neurotechnologies on non-consenting persons.

Some identify a more abstract principle underlying the right, a general restriction of state power in line with the right's historical genesis: "The inner world of the person lies outside the jurisdiction of the state" (Harris et al. 2009, p. 428). In other words, the state has, in principle, no claims over minds of citizens. Yet again, this principle is neither widely accepted nor openly contested in contemporary constitutional theory. The relation of governments to the minds of citizens is an underexplored issue at present. At least, freedom of thought seems to be the reason for an interesting feature of positive law: The law is generally reluctant to directly

[5]Cf. the General Comment No. 22 30.07.1993 by the UN Human Rights Committee.

[6]This touches upon the problem of the interplay between international human rights and domestic law. Whether and to which extent human rights are enforceable on the domestic level differs from treaty to treaty and country to country. In some states, human rights treaties prevail over domestic law; in others, they have to be incorporated into domestic law through special legislation; in still others, domestic law has to be interpreted in light of international treaties.

[7]Palko v. Connecticut 302 U.S. 319 (1937). Cf. Blitz (2010) and Boire (1999) for further references in US jurisprudence.

[8]Vermeulen in van Dijk and van Hoof 2006, p. 752.

[9]Scheinin in Eide and Swinehart 1992, pp. 264/266.

regulate minds. Only few, if any, legal provisions explicitly stipulate that persons ought (not) to be in a specific mind state. Instead of minds, the law regulates behavior by pre- or proscribing external actions.

Practical Irrelevance

While courts and scholars have often reiterated the importance of the right, it has not made much difference in legal proceedings. Freedom of thought may very well be the only human right without any real practical application. One can only speculate about the reasons. For one, the law is generally hesitant to deal with ostensibly intangible mental states, mainly because of issues of proof and causation. Roughly, the law entertains a dualistic protection of the person. While bodies enjoy strong protection and every constitution protects bodily integrity, one only rarely finds similar provisions for mental integrity. Compensation for mental distress is only awarded in extreme cases, many jurisdictions do not even recognize, e.g., a tort covering mental harms without corresponding physical injury.

Moreover, legal thinking appears still permeated by folk psychological intuitions and impressed by the view that thoughts are by their very nature invincible. In 1942, the US Supreme Court was convinced that "[f]reedom to think is absolute of its own nature; the most tyrannical government is powerless to control the inward workings of the mind."[10] It seems that not much has changed. The law might not have the manifold effective ways to change minds in plain view, and this could partly be due to the way in which worrisome interventions are described. Terms such as "thought control" or "mind-control" evoke sinister images of universally ostracized actions like brainwashing, but may not adequately capture, e.g., injections of mind-altering substances. Many interventions are imprecise in their effects so that it is hard to understand them as exerting "control" over thoughts.

Absolute Protection

The practical irrelevance of the right has another important reason: In most human rights treaties, freedom of thought enjoys *absolute* protection, for which interferences cannot be justified by any countervailing interest. Unlike regular rights which have to be balanced against rights of others or public interests, absolute rights trump other considerations. Human rights law recognizes only few absolute rights (e.g., prohibition of torture or degrading treatment) which evince the exalted standing of freedom of thought.[11] This importance, however, has a downside in practice which can be illustrated by coerced psychiatry. Obviously, forcible administration of

[10]Jones v. Opelika, 316 U.S. 584 (1942).

[11]Under the UDHR and the ICCPR, the right is even "non-derogable" in times of emergency.

psychoactive substances modulating thoughts and emotions is the kind of treatment that the right prohibits. Because of its absolute nature, interventions are not justifiable on any ground. In practice, however, freedom of thought is not even mentioned or elaborated upon in respective judgments. Instead, it is debated whether patients have a (restrictable) "right to be mentally ill" or "to refuse treatment." Treatments are mainly considered on the bodily level (side effects of medications), which puts the genuine mental effects out of focus. Thus, in face of practical necessities and arguably ethical duties to interfere with the inner realm of citizens in some cases, freedom of thought is simply not applied or construed so narrowly that measures are not conceived as infringements. Narrowing the scope of rights to avoid having to justify interferences is an old conjuring trick of lawyers, with the paradoxical effect that those rights that should command utmost respect are belittled and stripped of practical importance. This is not to contend that coerced treatments necessarily violate human rights, as some civil rights groups maintain. But one would expect sound arguments in view of such evident interferences, and their absence indicates that the absolute protection of the mind is an idea that stems from a time in which means to coercively alter thoughts were not available (or even conceivable) and that encounters deep ethical concerns once they become so, as there might be alluring reasons to employ them. As an alternative to degrading the right to a proclamation of symbolic nature, it seems preferable to cast doubts on the absolute protection and argue for well-defined exceptions while maintaining the strong protection in principle.

Altering One's Own Mind

As formulated today, cognitive liberty comprises another dimension: the right to alter one's own mind, not only by one's natural capacities but also with the help of neurotools from pharmaceuticals to brain stimulation. It is important to note that the current law does not outlaw particular mental states. There is no prohibition to be "high" or in any other altered state of consciousness, just as there is none to have criminal thoughts, deviant desires, or enhanced mental skills. However, some means to attain those states are prohibited by drug regulations outlawing the non-licensed use and possession of substances from classic street drugs like marijuana to potential neuroenhancers like methylphenidate. Details of regulations and criminalization vary from one country to the next, but international drug control treaties impose a ban on many substances in nonmedical contexts.[12] The idea that persons may have a legitimate interest in their use for nonmedical purposes does not play a role in current drug regulation. From a legal perspective, the debate over cognitive enhancement is thus not very different from the one about decriminalizing classic

[12]Cf. The list of psychotropic substances under International Control by the International Narcotics Control Board (www.incb.org).

recreational drugs. Both directly pertain to the question to which extent persons should be free to alter their minds for nonmedical purposes of their own liking.

At the moment, attaining some mental states is factually only possible by breaking the law. However, as the law does not prohibit altered mental states, persons have a right to be in those states. This right would be weighty if it derived from freedom of thought, but the point has not been thoroughly addressed so far and depends on the exact construal of the right. Historically, this dimension has not been part of the guarantee of the right. However, as commentators suggest, freedom of thought implies the freedom to "entertain any thought." A strong right to be in mental state X must prima facie entail the permission to use the pathways to arrive at or attain X (as long as interests of others are not affected). Then, freedom of thought entails the permission to use mind-altering substances. Although such arguments have not been accepted by courts (yet), much speaks in their favor.[13]

More generally, it is interesting to see how different ways to alter one's own mind fall under different regulations. Novel tools such as tDCS or TMS are not regulated at all (Maslen et al. 2013). Other mind-changing stimuli enjoy quite strong legal protection, e.g., as part of freedom of speech and expression. In a landmark case concerning pornography, the US Supreme Court even suggested that control of stimuli that enter minds could amount to mind control.[14] At least, compelling reasons are needed to justify why curbing one type of stimuli interferes with precious rights, whereas curbing others does not. In light of freedom of thought, one cannot but suspect an inconsistency here. Different means may warrant different treatment due to safety issues, but the same strong liberty interest for using of mind-altering tools would have to be conceded before one can assess whether it is outweighed by potential risks in particular cases.

After all, at least in theory, a strong human right protects persons against unwanted interventions into their minds. It arguably also entails a prima facie permission to make use of mind-altering tools. This right is, however, of little practical importance. Freedom of thought has failed to stand the test of practical applicability; it did not exert much influence on court cases or drug policy presumably because the idea is too vague and – due to its absolute nature – the right too strong to provide reasonable guidelines for solving practical cases.

Arguments for Cognitive Liberty

This gives rise to the challenge for the law – and for democratic societies – to draw the outer boundaries of the person in her mental aspects. Many substantive issues over scope and content of the right have to be clarified. To this end, some no longer sustainable assumptions, such as the idea that thoughts are factually invincible,

[13]For a moral argument to that end, see Husak (1992).

[14]Stanley v. Georgia – 394 U.S. 557 (1969).

have to be jettisoned. On the normative side, an absolute prohibition of any measure that interferes with thoughts and thinking processes appears unreasonable, at least if the right is, as suggested here, construed widely to encompass the use of mind-altering substances. Likewise, interventions that restore mental capacities in incompetent persons are at least not unreasonable and should not be prohibited across the board a priori. Rather, exceptions to the absolute protection have to be cautiously discussed and defined.

Moreover, some open questions about the scope of the right can be identified: Current law primarily covers some mental entities – thoughts and opinions. Should legal protection be confined to them (whatever they exactly are) or encompass others? Neurointerventions target, e.g., emotions such as pleasure and pain, motivation and anhedonia, mood in general, volition, and other psychological processes and properties that may not self-evidently qualify as thoughts, but which are so intimately intertwined with thoughts – if separable at all – that a strong protection of one without protection of the other does not appear meaningful. As the mind becomes accessible on the cerebral level, the law may need to provide an all encompassing protection – freedom of the mind. On the other hand, the same level of protection for all mental states might not account for their differences. Memory, for instance, seems to be a special case in its significance for both the individual and society.[15]

Historical Arguments

Furthermore, the importance of the right has to be assessed. This requires a deeper theoretical exploration of the reasons for and the limits to mental freedom. Many contemporary calls for employing neuroscience for public goals do not exhibit awareness of the fact that a governmental permission to alter the way people think or feel is, at least in the eyes of the law, a paradigm shift from regulating citizen's conduct to governing their minds. The mind of citizens is not just another target for governmental regulation. It is what makes persons who they are. That is why mind interventions are among the most intimate conceivable invasions of the person.

As the right is not accepted in many national legal systems, it is necessary to sketch some of the reason for its acceptance. A first step is to excavate the historical significance of the right and the distinction between regulating conduct and minds. It might be noteworthy that even in the conception of an (almost) absolutist sovereign in the work that stands at the inception of modern political philosophy, Thomas Hobbes' Leviathan, a distinction between the freedom of inner beliefs and outward confession was drawn. While states can demand public confession of adherence to official doctrine, citizens remain free to believe as they wish in their hearts. State powers are restricted to regulating external

[15]Cf. the chapter on memory alterations and the law in this volume.

actions (Hobbes 1996, p. 306). This idea can be found in the works of many prominent authors. In the Doctrine of Right, Immanuel Kant formulated the idea, concededly oversimplified here, that the role of the state is to secure reciprocal equal freedoms. The freedom of one person can interfere with another person's freedom only if their actions collide in the external world, e.g., because two persons claim access to the same space or resources. By contrast, whatever happens in the interior of a person's mind never restricts the freedom of anyone else. The purview of legitimate legal coercion is thus confined to the regulation of outward actions (Kant 1991, pp. 230, and 214).

In a similar vein, John Stuart Mill emphasized the special role of the mind. In "On Liberty," he wrote:

> [T]here is a sphere of action in which society, as distinguished from the individual, has, if any, only an indirect interest; comprehending all that portion of a person's life and conduct which affects only himself, or, if it also affects others, only with their [. . .] consent. When I say only himself, I mean directly, and in the first instance: for whatever affects himself, may affect others through himself [. . .]. [T]he appropriate region of human liberty . . . comprises, first, *the inward domain of consciousness*; demanding liberty of conscience, in the most comprehensive sense; liberty of thought and feeling; absolute freedom of opinion and sentiment on all subjects [. . .]. Secondly, the principle requires liberty of tastes and pursuits; of framing the plan of our life to suit our own character; of doing as we like, subject to such consequences as may follow; without impediment from our fellow-creatures, so long as what we do does not harm them even though they should think our conduct foolish, perverse, or wrong (Mill et al. 2003, pp. 82–83).

Mill claims that over self-regarding matters, individuals should decide for themselves. The characteristics of a person, her bodily and psychological properties and first of all, the inward domain of consciousness, are the realm which exclusively concern her. Therefore, society does not have claims over those traits, even if it strongly objects to them. Mill's argument relates to his harm principle. Restrictions of freedom are only permissible to avert harm to others. Yet by themselves and apart from deeds, thoughts or opinions cannot harm others. Kant and Mill both dismiss a legitimate right of others or the state over the content of a person's mind, i.e., governments do not have any jurisdiction over minds at all. Consequently, states can only restrict behavior, insofar as it interferes with others' rights or public interests. Of course, one may raise objections: Perhaps the role and corresponding powers of present-day welfare states are broader than securing negative liberties. In addition, thoughts, apart from deeds, may hurt others on occasion.[16] Yet even if one rejects Kantian and Millian ideas, the central point should be acknowledged: It is anything but self-evident why states should have any powers over minds at all.

[16]For example, pedophiliac thoughts as in the US case of Doe v. City of Lafayette, 377 F.3d 757 (2004).

Modern Arguments

Although not often explicitly addressed, the idea of cognitive liberty is deeply entrenched in principles of modern liberal constitutions. Among its defining and widely accepted characteristic is the idea of autonomy. Oftentimes, the scope of autonomy in law is wider than in ethics. Legal permissions do not coincide with what is ethically advisable; they guarantee freedom for supposedly wrong or bad decisions as long as rights of others are not affected. Currently, autonomy is primarily applied to issues regarding a person's body. In many jurisdictions, bodily self-determination reaches so far that even life-saving medical treatments have to be eschewed without consent of the person (or a proxy). Interestingly, one finds much less discussions of "mental autonomy." Of course, the idea of autonomy is not inherently bound to corporeal bodies or the physical part of persons, but rather a general principle of the allocation of decisional competence. The far-ranging autonomy in primarily self-regarding matters granted by the law must equally apply to the mind, including potentially self-harming conduct.

Some further legal arguments should be briefly noted. Together, the diverse human rights form a system of protection with the person and her most intimate characteristics in its center. Many civil liberties and social and political rights expand the protection of the person into the social sphere as they are considered necessary conditions for the development of the personality and a flourishing life. All the other freedoms lose their reference point if the core, the protection of life, liberty, and integrity of the person, is neglected. As the mind is among the most essential aspects of a person, the drafters of the Universal Declaration of Human Rights called freedom of thought "the basis and origin of all other rights" with "metaphysical significance."[17] Boire writes: "If freedom is to mean anything, it must mean that each person has an inviolable right to think for him or herself. It must mean, at a minimum, that each person is free to direct one's own consciousness; one's own underlying mental processes, and one's beliefs, opinions, and worldview. This is self-evident and axiomatic" (Boire 1999).

Freedom of thought stands behind other well-accepted human rights which could be severely undermined without its firm protection (Cf. Blitz 2010). Freedom of speech, for instance, is not merely the right to utter words, but to engage in critical discussions with adequate information. By protecting the uncensored exchange of ideas, the right secures the outer preconditions to form and revise opinions. The deeper reason why states sought and still seek to control information is that they seek to control ideas and opinions. Of course, the mental and neurobiological conditions of forming and revising opinions are at least equally worthy of protection. Because both rights share the same goal, a legal prohibition of governmental censure of ideas without a prohibition of tinkering with brains would be

[17]Rene Cassin, quoted from Scheinin 1992.

inconsistent. Prima facie, the strong protection of freedom of speech has to apply to freedom of thought at least to the same degree.

Moreover, the legal structure and the distribution of rights and responsibilities are modeled upon the idea of a freely deciding person. Apart from larger metaphysical issues of determinism and free will, free decisions presuppose that the preferences on which decisions are made have not been brought about through manipulative influences (above ordinary degrees). The legal system can only legitimately ascribe responsibility and liability for decisions if it simultaneously guarantees a basic level of freedom from unwanted interferences with the decision-making process. If the law treats persons as self-determined and holds them accountable for consequences of their mind states (in criminal and contract law, "meeting of the minds"), it has to grant them the legal powers of self-determination. Then, cognitive liberty is the "right to free will" because it protects the conditions of possibilities of "free" decisions and actions. In light of these considerations, cognitive liberty is not merely a political demand that one can approve or reject, but among the foundations on which liberal constitutional democracies are built. Legal systems seem to presuppose freedom of thought and are bound by reasons of inner consistency to openly recognize and embrace it.

Challenges

Interferences: Do Means Matter?

Once freedom of thought is at least in principle accepted, questions of its violations surface inevitably. As the foregoing shows, the intensity and effects of interventions have to be taken into account. In a sense, we change each other's minds and brains all the time. Reading these words changes thoughts of the reader. Eric Kandel once remarked that the deeper aim of his lectures is to cause anatomical changes in the brains of his audience. Because minds and brains are constantly changing, often due to external stimuli, the law cannot simply stipulate a prohibition to alter them in the same way as it prohibits altering another person's body. Rather, the law has to develop a framework of impermissible interventions based on both means and effects of interventions. Interventions that alter opinions, modify decisions, or severely undermine thinking capacities may run afoul of the core guarantee of freedom of thought, whereas minor interventions might not necessarily do so. Boundaries have to be defined more concretely. What about, e.g., subtle shifts in cognitive processes or mood?

Further distinctions have to be drawn between different means to change minds. Whether neurotechnologies are in some way more worrisome than traditional means of altering minds is one of the deep philosophical questions raised by neuroscience. As it has manifold practical implications, it has already reached public discourse and the popular press. It stands in the background of

controversies such as whether children should be treated with methylphenidate or rather placed in better school environments, whether depression should be treated pharmacologically or through psychotherapy, etc. In these cases, the desired goal is often sufficiently clear, but the means to attain them is in dispute.

The issue is so controversial because it is inextricably linked to different worldviews and ideologies. In the 1960s and 1970s, the heyday of behaviorism and leftist movements, the external environment was conceived as the prime determinant of behavior and, e.g., mental disorder. As a consequence, social and economic conditions were conceived as the prime target for interventions. If, as Marxists would say, the social being determines consciousness, consciousness is best changed through changing the social environment. Alternatively, the psychoanalytic tradition identified the psychogenesis of the individual as the main factor and favored various psychoanalytic and psycho-developmental interventions. Then came genetics, and today, we witness a profound shift towards the individual's brain which is considered as potentially maladapted to the environment rather than vice versa. Thus, the brain appears as the most appropriate target of intervention. However, the reductionist view of humans, to some degree inherent to neuroscience, remains unbelievable for many people who thus eschew interventions on the neurobiological level and favor more holistic, spiritual, or natural ones. In short, different levels of explaining persons seem to suggest different means of intervening.

Even though the different explanations might not be as mutually exclusive as they appear at first glance, this metaphysical issue is far from being resolved in the near future. In the meantime, the debate should be freed from ideological parts by separating empirical from more principled questions. Any intervention has benefits and side effects. Whether a desired goal can be better achieved through one way or another is largely an empirical matter. Perhaps, side effects of pharmaceuticals do not outweigh benefits; perhaps, traditional ways have further beneficial effects such as promoting virtues as self-mastery and self-reliance. These are, by and large, empirical matters. The more principled differences remain apart from benefit and risk assessments. To some, neurointerventions are intrinsically worse because their effects take place on the cerebral level whereas others work more indirectly, because they are artificial and technological (as compared to supposedly natural alternatives), or because they alter personality traits and render persons "inauthentic." Such worries are widespread in the concerned public, and corresponding arguments deserve more attention than can be given here. For present purposes, it is necessary to discard crude dualistic assumptions and underline the presupposition that all interventions, from talk therapy to pharmaceuticals or brain stimulation, change the brain in some way. Under this premise, other objections appear as expressions of particular worldviews and thus ill-suited for matters of public policy. As a consequence, a widely held position in neuroethics claims that principled concerns over neurointerventions are unfounded and that means to alter minds are not intrinsically ethically different

and should be treated on par (again, risks and benefits of specific interventions notwithstanding).[18]

In a legal perspective, however, some means to change other minds are privileged. Consider again free speech. It entitles speakers to send particular stimuli, mainly those that qualify as communication because they convey opinions or information. When a speaker changes opinions of a listener, e.g., by a compelling argument, she may have altered thoughts, but not in a way which runs afoul of the idea of freedom of thought. By contrast, if the same effect was produced through a pill that alters opinions, the freedom to hold opinions without interference seems contravened. Individuals have a right against being subjected to unwanted brain stimulation but not necessarily against exposure to persuasive arguments. Consider state interventions with laudable aims. One can hardly deny that governments must possess some competency to influence the minds of citizens, e.g., for purposes of education. Many schools and universities are run by the state, and in the preamble of its constitution, UNESCO declares that "since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed." Granting authorities a "teaching power" to instill important social values, such as peacefulness, seems justifiable – but not by any means (Cf. Tussman 1977). Compare a public campaign to foster law-abiding behavior by teaching the categorical imperative and raising awareness of the suffering caused by crime to a more advanced version of a recent study in which social norm compliance was improved by harmless electrostimulation of the lateral prefrontal cortex through transcranial direct current stimulation (tDCS). The authors conclude that their findings of enhanced "voluntary and sanction induced social norm compliance may be of relevance because noncompliance with social norms constitutes a major problem" (Ruff et al. 2013, p. 484). Assume for the sake of argument that main as well as side effects of interventions are relevantly similar – both change opinions and behavior in a pro-social way – should they be treated on par? If tDCS interventions were much cheaper, ceteris paribus, could or should the state require persons to wear stimulating devices instead of putting more effort in public awareness campaigns? Somewhere between these two approaches to promote norm compliance, the difference between Brave New World and a free – but morally conscientious – society seems to be situated.

Although many objections against neurotechnologies may turn out to be unsustainable, some normatively relevant differences between interventions remain. Among the most salient ones in above examples is that persons have more control over particular incoming stimuli such as words compared to electrical stimulation of the brain. The listener can think about propositions, rehearse, revise, or reject them; they enable her to form opinions. Even if the argument is so persuasive that it cannot but lead to a change of opinion, at least from the standpoint of a rational person, no harm has occurred since opinions and beliefs have to stand the test of counterargument. Abstractly, persons have more control over stimuli that

[18]Cf. the different version of the Parity Principle in Levy 2007.

are sensually perceived and enter conscious awareness because it allows them to engage with the contents. By contrast, stimuli that directly change brain activity on other routes and without (or only subsequently) evoking conscious phenomena are less controllable. Whether they are successful solely depends on their strength and biochemical properties of the brain. Stimuli that enter brains via our outward senses are processed by mechanisms whose function it is, by all their faults, to deal with them. To be effective, these stimuli have to engage with the other as a person and have to resonate with her personality, wishes, desires, and psychological properties. Brain stimulation or pharmaceuticals take different routes that circumvent these mechanisms and seem to treat the other more as a natural object. Whereas sensually perceived stimuli are regularly best considered as inputs into the cognitive machinery, direct interventions alter the machinery itself. Again, the difference does not lie in the false assumption that only some interventions cause cerebral changes, but rather in the fact that stimuli enter the brain via different routes and are processed by different mechanisms.

Are these differences normatively relevant?[19] This depends on the kind of duties persons have with respect to minds. If freedom of thought demands that we respect each other's mental sovereignty and forbids manipulating thinking processes, those stimuli that are informational inputs into the thinking machinery and appeal to reason fare much better than those that bypass control mechanism and alter the machinery more directly. Direct stimulation of the brain and persuasive arguments might be conceived as two poles in a broad spectrum of gradually different interventions which have to be carefully analyzed in light of a more fine-grained normative framework. As a first approximation, a concededly rough line can be drawn between interventions that intentionally bypass control capacities or exploit cognitive weaknesses on the one side and interventions that, at least in principle, respect control and freedom of thought as they do not undermine powers of resistance on the other. One example is subliminal messages entering minds through the senses without rising to conscious awareness. Because they are designed to bypass conscious control, they regularly do not respect freedom of thought of the receiver. Within the grey area that needs further analysis lie supraliminal stimuli which aim to change opinions by primarily appealing to emotions or other unconscious dispositions for which neuromarketing provides many examples. Traditional limits to marketing such as "misleading information" may not capture those subtle manipulative interferences which nonetheless appear worrisome in light of freedom of thought. Furthermore, external background conditions can be modified by placing stimuli such as scent, music, or odorless substances as oxytocin in locations like supermarkets to alter customer's behavior, e.g., raising their willingness to make purchases through increasing mood or lowering self-control. How society should deal with such lower-level, perhaps harmless yet potentially effective manipulations is a question that democratic lawmakers have to decide and which requires an open public debate informed by empirical findings.

[19]A more detailed argument against the Parity Principle can be found in Bublitz/Merkel 2014.

Paternalistic Limits: For the Good of the Person

Even if interferences are identified, the main challenge lies still ahead. Which interferences can be justified? In its current absolute interpretation, freedom of thought does not allow for any interference. Yet this understanding runs contrary to widespread practice and might be in need of reconsideration. Perhaps, narrowly defined exceptions are unavoidable. Rights are mainly limited for three reasons: for the good of the person herself, in the name of public interests, or because of rights of others. Whether and to what extent freedoms can be curbed for paternalistic reason, i.e., against the will of affected persons but for their own good, is a highly controversial question to which various legal systems provide different answers and which cannot be pursued in detail here. However, coerced psychiatric mind interventions as well as drug prohibitions constitute interferences with freedom of thought which – if justifiable at all – can only be grounded in a paternalistic rationale. As one cannot remain uncommitted on these issues without engaging with limits of paternalism, only some aspects shall be briefly mentioned. Psychiatric interventions often restore mental capacities and thereby increase *internal* freedom of thought but at the expense of freedom from unwanted external interventions. Thus, one dimension of freedom of thought has to be balanced against the other. Insofar as treatments are restricted to (legally) incompetent patients under narrow conditions and in pursuit of their best interests (rather than those of society, relatives, or medical institutions), weighty ethical reasons seem to speak in their favor and therewith for an exception to the absolute status of freedom of thought.

Prohibitions of pharmaceuticals and other tools to change one's own mind beyond therapeutic contexts face similar challenges. Freedom of thought prima facie permits their use, but without doubt, any reasonable drug policy must install restrictive measures. However – and a bit provocatively – if the idea of freedom of thought was taken seriously, the prime aims of regulation would consist in *enabling* persons to safely alter their minds to enhance their internal freedom. Such an approach would seek to develop a regulatory system with the least restrictive constraints and apt harm-reduction strategies (medical supervision, substitution, drug checking, etc.). Prohibition (and criminalization) would be means of last resort to prevent severe self-harm. This perspective would constitute a paradigm shift. The unquestioned premise of today's drug policies lies in the eradication of consumption at almost all costs. In some countries, the harsh political climate against mind-altering substances begins to soften, partly because of the work of NGOs such as the high-profile "Global Commission on Drugs" which called for an end on the "war on drugs" in an influential report in 2011[20] as well as scientists who urge an evidence-based drug policy (Nutt et al. 2007; Nutt 2012). But as these are complex political decisions touching upon many social interests, it suffices to say here that the right to alter one's mind is not adequately

[20]Global Commission on Drug Policy 2011.

acknowledged in current regulatory schemes.A better test case for paternalism regarding alterations of one's own mind is provided by a recent case report of a DBS treatment of a patient suffering from anxiety and obsessive-compulsive disorder. The electrodes were placed in the nucleus accumbens, a part of the "pleasure center" or "reward system" of the brain (Cf. Kringelbach and Berridge 2009). Stimulation of this area elevates mood, in correlation with the increase in voltage: The higher the voltage, the stronger the mood elevation, up to a point at which the patient reported to be overwhelmed by euphoric, drug-like sensations of happiness. Stimulation also modulates, e.g., motivation and feeling of relaxation. A level of stimulation was found which put the patient in a normal state. Usually, patients can alter the intensity of stimulation through a control pad, but when the pleasure-center is targeted, different devices are installed to prevent overstimulation. As only the physician has access to the parameters of the stimulation, the patient asked him to turn the voltage up because he would like to feel "a bit happier" during the next weeks. The request was denied because of the limited knowledge over long-term effects. Uncertain himself, the physician put the perplexing questions where "therapeutic levels of happiness" run and whether stimulation should be confined to those levels to the medical community.[21]

The case raises intriguing questions for the law. By regulating well-being, feelings of pleasure, relaxation, and motivational states, the simulation targets central characteristics of the person. Presumably, this is the most invasive, precise, and direct form of accessing important psychological properties of another person currently available. Who should have the power to control these aspects? Freedom of thought is implicated because elevation of mood and motivation also alter, as case reports show, the kind of thoughts that come to mind. Other rights could be involved. If the stimulation is controlled through an external device (or a remote control), increasing or decreasing pleasure or altering mood against the will of the person likely violates human dignity. The present case is less infringing because the patient has consented to stimulation and merely desires its modification. The physicians contend they "are clearly not obligated to change DBS parameter settings beyond established therapeutic levels just because the patient requested it." They are right insofar as they do not have to actively participate in the patient's quest to alter his mind. But what if he only demands surrender of the controlling device of (or, depending on the technical realization, the means of access to) his own brain? The level of happiness is so central to the person that any denial of self-determination requires tremendously important reasons. After all, one should recall, the historically first inalienable right was the one to life, liberty, and the pursuit of *happiness*.

The case is structurally interesting as it throws the problem of legal paternalism over minds into full relief. Already spatially, the transformation occurs exclusively within the brain of the person and all effects likewise transform the inward domain

[21] See the full case report in Synofzik et al. 2012.

of consciousness only. Society or others are affected, just as Mill argued, only indirectly through the person herself and thus lack claims over the level of happiness.[22] Curbing access must thus be based on paternalistic grounds. In face of unforeseeable consequences of unrestricted self-stimulation of the reward system, the physicians' cautious approach is commendable. This leads to the paradoxical point that even though the matter is highly intimate and normatively only self-regarding, it is equally dangerous and in need of regulation. This case strongly suggests that even hard paternalism in regard to one's own fundamental interests is warranted.

All three examples of paternalism hint at a deeper challenge for neuroethics. What the law requires – and often uncritically presupposes – is an ethical assessment of the desirability of particular mental states, properties, and capacities. Paternalistic restrictions can be justified only if they promote long-term interests of the person, all things considered. Such assessments have to rely on judgments over the (dis-)value of particular mental states such as artificially induced blissfulness, symptoms of mental disorders, or effects of specific drugs. Otherwise, risks and benefits cannot be reasonably compared. In the DBS case, physicians tried to predict long-term consequences of heightened levels of happiness, e.g., its effects on wants and motivation in an attempt to define a therapeutic (why not optimal?) level of happiness. Similarly, mind-altering substances are often conceived as producing "high" states, but what if one rather speaks about enabling associative or creative thinking? Or, suppose the contention that some psychoactive substances as LSD facilitate insights into one's personality and exploration of otherwise unattainable psychological depths proves correct – which dangers are worth taking for it? A framework to address such points is currently missing. Many ethical elaborations of various mind interventions are ultimately based on moral considerations rather than long-term interests of individuals. The law evaluates mental states without a sound basis and is in need of assistance from an ethics of conscious (and other) mental states.[23]

Limits Public Interests

Presumably, the most controversial issue is neurointerventions without consent for public interests. Freedom of thought, in its current interpretation, opposes any such intervention. In spite of this, every state resorts to them. For instance, psychiatric patients are also treated to avert harm to others, not only to themselves. Some countries deploy psychoactive drugs for interrogation ("truth serum") (Calkins 2010) or to render defendants competent to stand trial. The – at least to European

[22]This becomes self-evident if one imagines a person with identical characteristics bestowed upon her on natural ways. Then, others surely do not posses any claims over them. Prima facie the same must be true for electrically modulated mood.

[23]Cf. the call for an ethics of consciousness by Metzinger 2009, Chap. 9.

ears – most cynical form of involuntary treatment is restoring convicts' "competence to be executed." These interventions do not paternalistically advance interests of affected persons, but of the state or society at large.

Further applications of neurointerventions for the public good are proposed, e.g., neurosurgery of criminals or moral enhancement of potentially every citizen, enhancing mental capacities of eyewitnesses or impairing their ability to fabricate lies, and, most worrisome, military uses of neuroscience (Moreno 2012; Marks 2010).[24] To clarify, as long as individuals consent to treatments (under appropriate conditions),[25] their rights are not infringed upon; only involuntary interventions are in dispute. Of course, courts have recognized an interest against being subjected to such interventions in cases that came before them, but they often held public interests to prevail. Broadly speaking, governments and the public have inconceivably many interests in the minds of citizens, but by themselves, interests in curbing freedoms do not provide a justification for doing so. The absolute nature of the right opposes balancing freedom of thought with public interests. The question is whether this strict prohibition should be upheld. To put it in a slightly different perspective: If one were to follow the temper of the times and allow certain interventions for the public good, one would have to establish mental duties of affected persons. Everyone who has to undergo mind interventions by law must be under a respective enforceable duty. Such duties contravene the idea that others do not have claims over the content of one's mind. Where those duties originate from and where they end would have to be explicated, which leads into fundamental issues over the general kind of duties persons owe to each other and to the state. To those endorsing consequentialist premises, strict limits to governmental powers irrespective of consequences appear utterly mistaken. Nonetheless, especially human rights law is founded upon the conviction that certain parts of persons are inviolable and have to remain outside of governmental reach.

While this matter cannot be settled here and deserves profound inquiry, it should be reminded that imposing mental duties constitutes a paradigm shift with potentially far-ranging implications. Instead of taking persons as they are and restricting their external freedom, the state acquires claims over the person herself. Instead of governing conduct, states govern minds. Is this not opening Pandora's box? Is it not, in times of omnipresent security worries, only a small step to policing thoughts, enforcing mental obedience, drugging the dissident? Even if one were to accept an expansion of governmental powers into the mental realm, one principle of public law will remain: States have to choose the least restrictive measure in curbing liberties. Oftentimes, curbing external freedom is less infringing than intervening into minds as freedom of action weighs much less than freedom of thought.

[24]Cf. the chapter on moral enhancement in this volume.

[25]Cf. the paper by Shaw in this volume.

Finally, a different set of public concerns can be found in ethical debates. It might be summed up as the wish of many people worried about the pharmacologization of everyday life (or, as David Healy put it: birth, Ritalin, Prozac, Viagra, death) to live in a natural society that does not medicalize its problems. As such, even if embraced by a vast majority, this (understandable) wish over a societal atmosphere cannot overrule freedom of thought. However, freedom of thought might be invoked at certain instances to counteract some societal developments.

The Right to Use Versus The Right to Refuse

Mill and Kant argued that mental alterations fall outside the purview of legal regulation because apart from deeds, they do not harm others or do not curb other persons' freedoms, respectively. The debate over neuroenhancements demonstrates that these assumptions might be misleading (CF. Greely 2006; Merkel 2007). In a mental economy, economic surplus is generated mainly through cognitive labor. In a sense, this realizes an old Marxist ideal: The means of production belong to the workers. Yet as long as they compete in job markets, this does not lead to liberation, but produces new forms of pressure. Optimizing the brain through neuroenhancements is optimizing the means of production. Legally, freedom of thought implies the right to use enhancements but by the same token to refuse their use. Therefore, opponents such as transhumanists and bioconservatives can – and should – both embrace the right, only emphasizing different dimensions.[26] Although strictly speaking, no one is coerced to take enhancements simply because others do, factual pressures may become so strong that persons cannot refuse without taking severe negative burdens upon them. This social conflict primarily results from constitutions of minds, not actions, and the different interests have to be reconciled in some way by a democratic legislator. Thus, even though it might appear paradoxical at first glance, one of the strongest reasons to curb freedom of thought of potential users is freedom of thought of refusers.

Future Directions

The seductive idea that thought is free can no longer serve as a basis for the way the law deals with minds. Neurotechnologies that afford to modulate and manipulate cognitive and emotional processes raise manifold challenges for the law: The right to freedom of thought has to be acknowledged and interpreted in a way that lives up to its theoretical and historical significance. Scope, contours, and interferences have to be defined. The current legal overemphasis on the side of

[26]For a detailed argument why bioconservatives should embrace cognitive liberty, see Bublitz 2013.

the sender of stimuli through, e.g., strong protection of freedom of expression has to find its limits in cognitive liberty as the right to remain free from unwanted manipulative interferences. This could place novel boundaries even on some socially accepted interventions. Perhaps most importantly, the absolute nature of the right has to be called into question. Very important public interests may justify interferences. If exceptions were allowed, the state would acquire the power to impose mental duties by which governmental competencies were expanded from controlling behavior to governing minds. This is a dramatic shift that requires profound debate. Furthermore, the law tacitly relies on extralegal reasoning about the desirability of mental states for which neuroethics could provide valuable assistance. Which mental states should states promote, discourage, or even outlaw? In the end, the scope of freedom of thought defines the realm and limits of mental self-determination or the boundaries of social access to the mind. Answers to these questions will have far-ranging repercussions in many areas of the law as well as in social and private life.

Cross-References

- ▶ A Duty to Remember, a Right to Forget? Memory Manipulations and the Law
- ▶ Ethics in Psychiatry
- ▶ Neuromarketing: What Is It and Is It a Threat to Privacy?
- ▶ The Morality of Moral Neuroenhancement
- ▶ The Use of Brain Interventions in Offender Rehabilitation Programs: Should It Be Mandatory, Voluntary, or Prohibited?
- ▶ Using Neuropharmaceuticals for Cognitive Enhancement: Policy and Regulatory Issues

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