

Genetic Enhancement and Autonomy

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I. The problem of the admissibility of genetic enhancement

The present paper deals with an oft-raised argument against the admissibility of enhancing an embryo's nature through genetic engineering (hereafter: genetic enhancement), namely, the argument from autonomy. The argument asserts that genetic enhancement is not admissible because it violates human autonomy (i.e., the autonomy of a person who is to grow up from the embryo subjected to genetic engineering). Clearly, in order to appraise this argument, one must have a clear understanding of the notion of autonomy. Accordingly, a large part of this paper is devoted to clarifying this notoriously unclear notion. The clarification proceeds in two stages. First, a distinction is made between personal and moral autonomy. Second, the concept of presuppositions of moral autonomy is introduced. It is argued that one can distinguish two conceptions of moral autonomy depending on whether one assumes that the contingency of birth is a presupposition of moral autonomy or not. In the final part of the paper, relations between the two conceptions of moral autonomy and two types of genetic enhancement ('directed' and 'all-purpose') are examined.

II. Autonomy

A. Two concepts of autonomy

As it seems, there are two concepts of autonomy – personal and moral. As we shall see, personal autonomy has two varieties, and moral autonomy has three varieties.

1. Personal autonomy

Personal autonomy can be defined as the agent's freedom at the level of choosing her desires (preferences, goals). The somewhat vague phrase 'having freedom at the level of choosing one's desires' can be explicated in the following way: 'having the second-order capacity to distance oneself from one's first-order, i.e., action-guiding desires, to evaluate them in a critical way by considering reasons for their acceptance and for the acceptance of alternative desires, and to change them if they do not pass critical scrutiny'. The concept of

personal autonomy has two varieties – material and formal. The formal variety does not forestall what desires (preferences, goals, etc.) an agent should choose (whether they be moral or amoral, whether they are to satisfy some ideal of human excellence or not, whether they are to be loyalty, commitment, obedience to a group or rather some kind of substantive independence, whether they can be self-destructive or not). The only thing it requires is that an agent should be able to critically evaluate her first-order desires, and, should these desires not pass the critical evaluation, to change them. Accordingly, on this variant, a personally autonomous agent can be just as well a self-sufficient individualist insensitive to the needs of others as an altruist treating others' needs as one's own needs – just as well a villain as a saint, etc. By contrast, the material variety requires that an agent should choose a specific type of desires (moral, realising some ideal of human excellence, prudent, or rational, etc.).¹

Three further remarks on the formal variety of the concept of personal autonomy are in order here. First, personal autonomy does not operate in an all-or-nothing fashion; rather, an agent may be personally autonomous to a higher or lesser degree. As it seems, though, no human being can be called an agent (i.e., the true author of her own actions) if she loses completely her personal autonomy. This is so because the agent's first-order, i.e. action-guiding desires can be really called *hers* only if she really wants to have these desires, i.e., if she has second-order desires to have and to realise her first-order desires. Accordingly, some level of personal autonomy is indispensable to human agency (though, as it must be admitted, it is difficult to determine what level exactly constitutes the threshold between agency and the lack of agency). As we shall see presently, the fact that in order to be called 'an agent' a subject must exhibit some level of personal autonomy is relevant to the question about the relations between personal autonomy and moral autonomy. Second, personal autonomy is a *value* – a desirable feature of human being. One can argue for this claim indirectly: personal autonomy is a value, as it is a necessary condition of human agency, or directly: personal autonomy is a value because the very capacity not to yield unreflectively to one's first-order desires is valuable in itself. Third, personal autonomy should be distinguished from freedom at the level of realising one's desires, i.e., from freedom understood as the lack of obstacles in realising one's desires. It is worth noting that an agent may be personally autonomous and free (in the sense 'encountering no obstacles in realising her desires'), personally autonomous

¹Defining autonomy as a second-order capacity, i.e., as a capacity to distance oneself from one's first order, i.e., action-guiding desires, is widespread in the relevant literature. Also my distinction between formal and material autonomy is not new. See, for instance, **G. DWORKIN**, *The Theory and Practice of Autonomy*, 6th ed., Cambridge, Cambridge University Press, 2001 (Dworkin writes about formal and substantive autonomy); **H. G. FRANKFURT**, "Freedom of the Will and a Concept of a Person", *Journal of Philosophy*, 1971, No 68, pp. 5-25.

and non-free, personally non-autonomous and free, and personally non-autonomous and non-free.

Let me now turn to the second concept of autonomy – moral autonomy.

2. Moral autonomy

Moral autonomy can be defined as the agent's capacity to reflectively choose moral principles which are to govern her actions and/or reflectively affirm moral principles which she already accepts (and which she may have originally accepted on unreflective grounds), i.e., as the capacity for normative self-government. I shall call this understanding of moral autonomy 'the strong variety of moral autonomy' (to be distinguished from its two other varieties discussed below). This variety has a formal and material variant. The material variant specifies what moral principles an agent should reflectively choose and affirm if she is to be called 'morally autonomous', while the formal variant requires only that the agent should reflectively choose moral principles which are to govern her actions and/or reflectively affirm moral principles she already accepts.

Moral autonomy can be understood also in a weaker way – as the capacity to understand moral principles as a specific kind of reasons for action (i.e., as different from conventional rules) requiring obedience in an especially categorical way. I call this understanding of moral autonomy 'the weak variety of moral autonomy'. What this variety implies is that an agent understands moral principles *qua* moral principles. In other words, it implies that an agent can discern the specificity of moral principles which consists in that they (as opposed to conventional rules) constitute particularly strong reasons for action, i.e., reasons overriding other reasons for action. It does not imply that the agent has the capacity to reflectively choose moral principles and/or reflectively affirm principles which she already accepts. Of note is the fact that this variety of moral autonomy constitutes a cognitive element of the moral sense and thereby a condition of moral accountability (the second element of the moral sense is motivational – it is a tendency of the agent to comply with moral principles). Accordingly, an agent who commits a crime can be held morally accountable for her deed only if she exhibits a cognitive element of the moral sense (clearly, by definition, such an agent has a defective motivational element of the moral sense). Similarly to the strong variety of moral autonomy, one can also distinguish a material and formal variant of the weak variety of moral autonomy.

Apart from the strong and weak variety of moral autonomy, one should also mention about what can be called ‘Kantian moral autonomy’ or ‘the strongest variety of moral autonomy’. Kantian moral autonomy can be defined as the agent’s capacity to reflectively choose moral principles which are to govern her actions and/or reflectively affirm moral principles which she already accepts, and – additionally – to be motivated by these moral principles alone, without interference of any empirical causes. Analogously to the weak and strong variety of moral autonomy, Kantian moral autonomy can also be divided into a formal and material variant. As can be readily seen, the formal variant of Kantian moral autonomy implies the formal variant of the strong variety of moral autonomy (which, in turn, implies the formal variant of the weak variety of moral autonomy).

The results of the analyses conducted in sections 1 and 2 can be schematically summarized in the following way:

Personal autonomy

I. Formal variety (second-order capacity to choose one’s first-order desires; it is not specified which desires should be chosen).

II. Material variety (second-order capacity to choose one’s first-order desires; it is specified which desires should be chosen).

Moral autonomy

I. Weak variety

1. Formal variant (understanding moral principles *qua* moral principles; moral principles are not specified).

2. Material variant (understanding moral principles *qua* moral principles; moral principles are specified).

II. Strong variety

1. Formal variant (capacity to reflectively choose moral principles which are to govern one’s actions and/or reflectively affirm moral principles which one already accepts; it is not specified which moral principles should be chosen).

2. Material variant (capacity to reflectively choose moral principles which are to govern one’s actions and/or reflectively affirm moral principles which one already accepts; it is specified which moral principles should be chosen).

III. Strongest variety (Kantian moral autonomy)

1. Formal variant (capacity to reflectively choose moral principles which are to govern one's actions and/or reflectively affirm moral principles which one already accepts, and to be motivated by these moral principles alone, without interference of any empirical causes; it is not specified which moral principles should be chosen).

2. Material variant (capacity to reflectively choose moral principles which are to govern one's actions and/or reflectively affirm moral principles which one already accepts, and to be motivated by these moral principles alone, without interference of any empirical causes; it is specified which moral principles should be chosen).

In the remainder of this paper, by personal autonomy I shall mean 'the formal variety of personal autonomy', and by moral autonomy I shall mean 'the formal variant of the strong variety of moral autonomy'. The narrowing down of my considerations to the two varieties of autonomy is due to the fact these two varieties seem to be the best explications of the concepts of personal and moral autonomy. The material variety of personal autonomy seems to be too strong: the requirement that an autonomous agent ought to choose a concrete type of first-order desires does not harmonize well with the notion of personal autonomy as it is usually used in the philosophical discourse. Besides, the material variety of personal autonomy becomes hard to distinguish from moral autonomy. As for moral autonomy, its weak variety seems to be too thin – moral autonomy seems to require something more than just the capacity to understand moral principles *qua* moral principles, while its strongest variety seems to be too thick – moral autonomy does not have to require that the agent should have the capacity to be motivated by moral considerations alone. However, I want to emphasize that, in my view, all the above varieties of autonomy are legitimate explications of the notion of autonomy. The formal variety of personal autonomy and the formal variant of the strong variety of moral autonomy seem to be just the best explications from among a number of legitimate explications, i.e., they seem to be explications that capture best the specificity of the concept of autonomy as it is used in the philosophical discourse.

Before I turn to the problem of the presuppositions of moral autonomy, I shall devote some attention to the problem of the relationships between these two concepts. Two different views of these relationships emerge. The first view states that they are entirely independent in the sense that an agent can be morally autonomous without being personally autonomous. This view leads to a rather counterintuitive conclusion that an agent's being entirely incapable of freely shaping and/or changing her first-order desires does not exclude her capacity to reflectively choose and/or reflectively affirm moral principles. According to the second view,

the two concepts are partially dependent in the sense that an agent must be at least to some extent personally autonomous in order to be morally autonomous (to the same extent to which human agency presupposes personal autonomy, because moral autonomy presupposes human agency). This second view seems to be more plausible, because the capacity to reflectively choose and/or affirm moral principles seems to require some level of the capacity to distance oneself from one's first-order desires.

B. Presuppositions of autonomy

What has been said so far – that there are two main concepts of autonomy, and that moral autonomy presupposes human agency ('being a true author of one's actions'), which, in turn, presupposes some level of personal autonomy – seems to be rather uncontroversial. What is controversial is whether moral autonomy has any other presuppositions and whether personal autonomy has any presuppositions at all. Before tackling these questions, let me clarify the concept of a presupposition of autonomy (used so far intuitively). Presuppositions of autonomy are conditions that must be satisfied in order to make sense of the concept of autonomy. They are therefore conditions which have to be met if one wants to speak of true rather than apparent autonomy. Accordingly, if a presupposition of a given concept of autonomy is not satisfied, the concept, so to say, falls apart: an agent who chooses her desires in a free way is only apparently personally autonomous, and an agent who chooses and/or affirms moral principles which are to govern her actions is only apparently morally autonomous. In short and less metaphorically, the notion of a presupposition can be equated with the notion of a necessary condition. This account of the notion of presupposition is general – it refers also to presuppositions of other notions than autonomy – for instance, to the notion of human agency, which is strictly connected with the notion of autonomy. In the following two sections I shall argue that personal autonomy does not have any presuppositions, that it is not entirely clear whether human agency has two presuppositions (personal autonomy, free will) or three presuppositions (personal autonomy, free will, the contingency of birth), and – consequently – that it is not clear whether moral autonomy (which presupposes human agency) has two presuppositions or three presuppositions.

1. Free will

Free will can be defined as the capacity to choose alternative actions in a given situation: an agent who has chosen an action at a given time has free will if she could have chosen some other action at that time. The question arises whether free will can be regarded a presupposition of personal or moral autonomy.

Personal autonomy requires that an agent have a second-order capacity to critically evaluate and to change her first-order desires. Now, there seems to be no connection between thus understood personal autonomy and free will. There seems to be no contradiction in assuming that an agent has the above mentioned second-order capacity and does not have free-will, i.e., that she has the second-order capacity but all her thoughts, desires, actions are inevitable consequences of preceding events. In short, an agent can have the second-order capacity and simultaneously be deprived of free will. However, one may plausibly argue that even though free will is not a presupposition of personal autonomy, it is a presupposition of human agency. This is so because if an agent is deprived of free will, i.e., if her actions are just links in causal chains, then she can hardly be called ‘an agent’ – a *true* author of her actions. Accordingly, it seems plausible to maintain that human agency has (at least) two presuppositions – not only some level of personal autonomy but also free will. However, one could criticize this account of the relations between personal autonomy, free will and human agency by pointing out that free will *is* personal autonomy.² This explication of free will, though, seems to forfeit what seems to be an essential part of free will – the capacity to choose various options in a given situation, or, put alternatively, not being determined to choose a given option in a given situation. Accordingly, free will should be regarded as a presupposition of human agency, not as the presupposition of personal autonomy. Personal autonomy and free will should therefore be regarded as two *different* presuppositions of human agency.

Let me now turn to the question of whether free will is a presupposition of moral autonomy. Moral autonomy requires that an agent reflectively choose and/or affirm moral principles which are to govern her actions. Since the requirement that agent should reflectively choose and/or affirm moral principles implies that an agent should assume moral accountability for not complying with these principles, it can be said that moral autonomy implies moral accountability. And it can be plausibly argued that moral accountability for not

²Such explication of the notion of free will was put forward by Harry G. Frankfurt; see **H. FRANKFURT**, “Freedom of the Will”, *o.c.*

complying with moral principles is justified only if the agent is not causally determined to act in a given way, i.e., if she has free will. Moral autonomy, therefore, presupposes free will. Clearly, one may argue for this just by pointing out that it is a direct consequence of the above account of the relations between personal autonomy, free will and human agency: given that some level of personal autonomy and free will are presuppositions of human agency, and that moral autonomy seems unthinkable without human agency, then moral autonomy presupposes free will (and some level of personal autonomy).

2. The contingency of birth

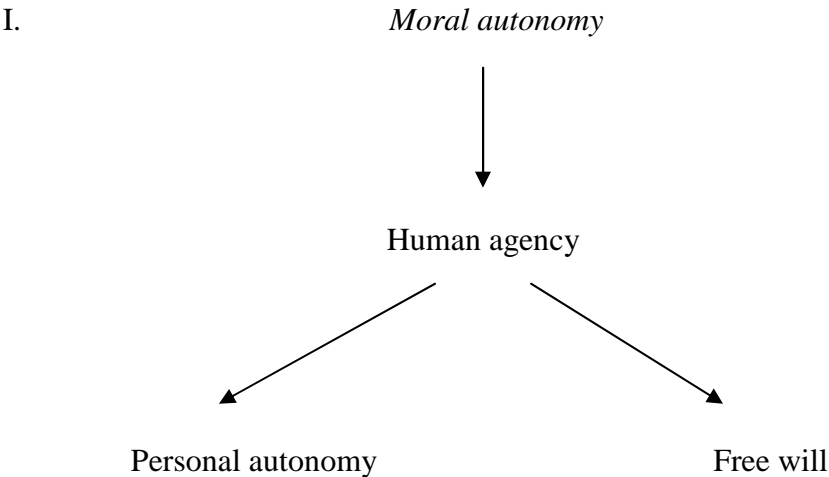
As we shall see, the question of whether the contingency of birth is a presupposition of human agency and thereby of moral autonomy is much more intricate than the question of whether free will constitutes such a presupposition. The claim that the contingency of birth is crucial for moral autonomy was put forward by Jürgen Habermas.³ Habermas argues that our ethical self-knowledge as a species is grounded in the fact that our genetic constitution does not depend on the will of other persons, i.e., is contingent. What Habermas means by that is that a person cannot consider herself to be a real author of her actions and – more generally – of her life if she knows that other people decided about her genetic constitution. Accordingly, a person whose birth was not contingent cannot be expected to be able to take full responsibility for her actions, and thereby cannot be morally autonomous. Habermas's argument can therefore be plausibly construed as saying that the contingency of human birth is a presupposition of human agency. This argument is very profound – it seems to capture something really important about the nature of human agency and autonomy. However, it is not easy to articulate what exactly it captures and how it should be ultimately assessed. I shall start my analysis of Habermas's argument from a remark that if this argument is correct, it is not as self-evidently correct as the argument that some level of personal autonomy and free will are presuppositions of human agency. While it is (at least, in my view) self-evident that the possession of the second-order capacity to distance oneself from one's first-order desires (personal autonomy) and the capacity to have a real choice between various first-order desires (free will) are presuppositions of human agency, there seems to be nothing self-evident in the claim that human agency requires that a subject's genetic constitution should not have been

³ See **J. HABERMAS**, *Die Zukunft der menschlichen Natur. Auf dem Weg zu einer liberalen Eugenik*, Frankfurt am Main, Suhrkamp Verlag, 2001. Habermas mentions that similar claim was made earlier by Hannah Arendt who (in *The Human Condition*) introduced the notion of natality as a pre-condition of human ability to initiate action.

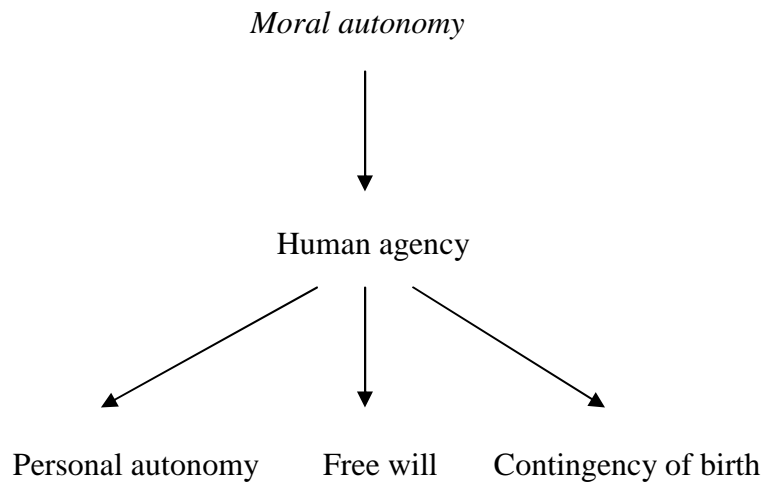
designed by some other person. One might say that if a subject is personally autonomous and has free will, there seems to be nothing more needed to call her 'an agent'. Accordingly, it seems that the lack of contingency of birth does not by itself undermine human agency; it undermines it only in so far as it decreases personal autonomy beneath the 'threshold level' between agency and the lack of agency and/or violates her free will. Therefore, on this interpretation of human agency, contingency of birth is not a presupposition of human agency. Is therefore Habermas's claim that contingency of birth is a presupposition of human agency untenable? The matters are not so simple. There seem to be two main ways of defending this claim – one may call them 'philosophical' and 'psychological'. The philosophical way consists in pointing out that if we *really deeply* understand the concept of human agency as the concept of *true authorship* of one's actions, we cannot fail to notice that this concept requires the contingency of birth; absent the contingency of birth, our authorship is not 'true', for the simple reason that we were designed not just by chance (which, on this argument, is a condition of our being true authors of our actions) but by some other person's conscious will. This way of defending Habermas's argument, however, encounters serious difficulties. First, one repeat the above made remark that the conception of human agency as based on personal autonomy and free will is sufficiently profound, so that there is no need to make it still 'more profound' by positing a somewhat obscure condition of the contingency of birth. Second, one may point out that, contrary to what Habermas seems to assume, the contingency of birth is an all-or-nothing notion. It is true that either a birth is contingent or not. However, it is also true that there is a fundamental difference between a negligent and substantial intervention in the embryo's genotype. On Habermas's view both types of intervention seem to undermine human agency to the same degree, while on the view that the contingency of birth is not a presupposition of human agency, they undermine human agency in varying degrees – depending on how they affect the presuppositions of human agency (personal autonomy and free will). The latter view seems more plausible. What's more, the view that the contingency of birth is a presupposition of human agency gives rise to a counterintuitive conclusion that an elimination of an embryo's genetic defects (i.e., negative genetic engineering) with a view to enabling the child's normal functioning as a human being undermines her agency (whereas, in fact, it would be right to say that it enables her agency). This counterintuitive conclusion can be avoided if we reject the claim that the contingency of birth is a presupposition of human agency. The psychological way of defending Habermas's argument, in turn, consists in asserting that a person who is aware that her birth was not contingent, i.e., that her genetic constitution was consciously shaped by other people, is unlikely to feel herself to be a true

agent and thereby is unlikely to be able to reflectively choose and/or affirm moral principles which are to govern her actions, and, consequently, to accept moral accountability for compliance with these principles. One can respond to this argument by saying that this feeling of the lack of agency which an agent is likely to experience if she knows that her birth was not contingent can be eliminated by rationally arguing to her that the necessary and sufficient conditions of agency are personal autonomy and free will (or, if possible, by not revealing to her the information about the non-contingency of her birth). However, one could strengthen the psychological argument by claiming that such rational argumentation is not sufficient to eliminate this feeling, as this feeling is overwhelming, not open to rational argumentation about the bases of agency. Whether this feeling can be of such kind is an empirical question. In my view, it is rather implausible to maintain that it can. But even if it could, what would it show? Clearly, it would not show that contingency of birth is a presupposition of human agency. It would only show that a person who knows that her birth was not contingent is likely to experience a difficulty with feeling herself the true author of her actions and thereby with taking full responsibility for her actions. But, let me repeat the point already made, by virtue of this fact the contingency of birth would not become a presupposition of human agency.

To sum up, the foregoing considerations seem to support the claim that contingency of birth is not a presupposition of human agency and thereby of moral autonomy. It is difficult, though, to provide a conclusive argument for this claim. Especially, it will be difficult to convince someone who just posits that the *profound* conception of human agency implies the contingency of birth. Therefore, given that it is not entirely clear what the presuppositions of human agency and thereby of moral autonomy are, one should distinguish two competing conceptions of moral autonomy (the arrows on the figures point to presuppositions of a given concept):



II.



III. Genetic enhancement

Before passing to the problem of whether genetic enhancement violates human autonomy, it is necessary to distinguish two markedly different types of genetic enhancement (the distinction to be presented is widespread in the relevant literature⁴). The first type, which I call ‘directed genetic enhancement’, consists in that a decision-maker (e.g., parents) has an embryo’s genotype modified in such a way that the embryo’s development is strongly determined to proceed in a certain definite direction (i.e., a child is strongly determined to choose a given way of life wished by the decision-maker). The second type, which I call ‘all-purpose genetic enhancement’, consists in that a decision-maker (e.g., parents) has an embryo’s genotype modified in a way that increases the embryo’s overall capacities and powers to effectively pursue various life careers but does not determine the choice of any of those careers. Three additional remarks regarding the notion of genetic enhancement seem to be in order. First, when I speak of genetic enhancement and its influence on human autonomy, I mean a situation in which some decision-maker decides to enhance the nature of an embryo through genetic engineering, not just eliminate its defects that would preclude the embryo’s normal functioning as a human being; I mean, then, positive, not negative, genetic engineering. Incidentally, it is worth noticing that negative genetic engineering does not seem to pose serious problems in the context of autonomy (unless, as mentioned, one assumes that

⁴For a discussion of various aspects of genetic enhancement see, e.g., **J. HARRIS**, *Enhancing Evolution. The Ethical Case for Making Better People*, Princeton, Princeton University Press, 2007; **M. J. SANDEL**, *The Case against Perfection. Ethics in the Age of Genetic Engineering*, Cambridge MA., Harvard University Press, 2007; **P. VEZZONI**, *Il futuro e il passato dell’uomo. Considerazioni sull’evoluzione umana*, Milano, Bruno Mondadori, 2006.

contingency of birth is a presupposition of human agency): it enables a child's proper functioning of human beings, and therefore it enables her/his autonomy. Second, since the decision-maker may be – but does not have to be – the child's parents (the decision-maker may be, e.g., the state), the situation may take place both in the context of 'liberal eugenics' and in the context of 'authoritarian (state) eugenics'; the crucial point is only that some decision-maker decides to improve the other human being's – an embryo's – nature through genetic engineering. Third, an essentially different situation arises when a decision-maker uses genetic engineering to improve her own nature. In this situation genetic enhancement does not seem to pose any obvious threat to autonomy. It may be an expression of one's personal autonomy or not, depending on whether a subject has freely chosen her first-order desire to undergo a genetic improvement or not. And, depending on concrete effects of this improvement, it may diminish, increase, or leave intact her personal and moral autonomy.

IV. Does genetic enhancement violate human autonomy?

The answer to the question of genetic enhancement violates autonomy will depend on which conception of moral autonomy one accepts.

If one accepts the conception I of moral autonomy, then the answer will comprise the following theses:

(1) Directed genetic enhancement diminishes personal autonomy. This is so because by determining an agent through genetic engineering to choose a concrete life career or at least to be capable of choosing from a smaller set of life careers than she would have been without the genetic intervention, one undermines the effectiveness of her second-order capacity to freely choose her goals. However, directed genetic enhancement does not have to affect moral autonomy. As argued, moral autonomy is only partially dependent on personal autonomy. Accordingly, the violation of personal autonomy will also be a violation of moral autonomy only if the violation of personal autonomy is so substantial as to make personal autonomy fall beneath 'the threshold level' between agency and the lack of agency.

(2) All-purpose genetic enhancement does not diminish personal autonomy and does not affect in any way moral autonomy. *Au contraire*: all-purpose genetic enhancement increases a subject's personal autonomy, as it widens the range of goals from among which she can choose those goals she wishes to be *hers*.

If one accepts the conception II of moral autonomy, then the answer to the question of whether genetic enhancement violates autonomy will be composed of the following theses:

(1) Directed genetic enhancement diminishes personal autonomy (for the same reasons as it does on the grounds of the conception I of moral autonomy). Directed genetic enhancement violates moral autonomy, as it violates one of the presuppositions of human agency (and thereby of moral autonomy), namely, the contingency of birth.

(2) All-purpose genetic enhancement does not diminish personal autonomy but it violates moral autonomy (because it violates one of the presuppositions of moral autonomy, namely, the contingency of birth).

It should also be noted that irrespective of which conception of autonomy we accept, the following thesis holds: no type of genetic enhancement threatens the first presupposition of human agency – free will, since if one believes that humans possess free will, one will continue to do so, even if one knows that they are ‘designed’, not contingently born.

Clearly, for anyone for whom autonomy is an important value and who accepts the conception II of moral autonomy, the conflict between moral autonomy and genetic enhancement will be a strong argument against the admissibility of the genetic enhancement of embryos. However, as I have argued, the conception II of moral autonomy seems to be less plausible than the conception I. The preceding remark, though, does not imply that, if we accept the conception II of moral autonomy, genetic enhancement of embryos becomes admissible, because, apart from the argument from autonomy, one may advance many other arguments against genetic enhancement, not discussed in the paper.