

Genetic Engineering and Ethics in Germany

ETHICS AND BIOTECHNOLOGY

Edited by
Anthony Dyson and John Harris



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GENETIC ENGINEERING AND ETHICS IN GERMANY

Ulla Wessels

1 WHAT THIS CHAPTER IS ALL ABOUT

The expression 'genetic engineering' refers to all procedures dealing with the artificial recombination of genetic material.

Here are some examples of the activities in question: in the field of environmental protection, the construction of micro-organisms capable of dismantling harmful materials; in the field of nutritional and agricultural sciences, the development of new strains of grains and domestic animals; and in the field of human medicine, efforts to develop genetic therapies and to produce gene-based medicaments, diagnostic aids and vaccines.

It is hardly surprising that the ethical problems involved (though, as we shall see, not their discussion) are the same in Germany as elsewhere: What are the risks inherent in genetic engineering? How can these risks be weighed against the advantages that genetic engineering promises? What consequences really *are* advantages? Should man be allowed to change 'human nature'? Does the alteration of genetic material damage the interests of those affected? And so on.

This chapter does not attempt to show how one *should* go about answering these questions. What we are asking is how these questions *are in fact* being dealt with in Germany. More explicitly:

- I Which topics are being discussed most intensely?
- II Who is primarily involved in these debates?
- III Which beliefs and arguments play an important part?

Ad (I): The most controversial area of application is, unsurprisingly, man. It is this area, therefore, that we shall concentrate on in the following survey.

Ad (II): Those who, first and foremost, participate in the dis-

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cussion of genetic engineering of human beings are lawyers, politicians, theologians, and a few philosophers. In addition, lobbies and institutions representing affected branches of industry and science as well as several independent pressure groups all publicize their views.

And now, for the rest of this chapter, ad (III). I shall, as far as this is compatible, try both to give a *structured* survey of the main types of arguments and to provide, in each case, numerous references enabling the more curious reader to locate the relevant sources himself or herself.

2 THE SEARCH FOR SAFETY STANDARDS

In February 1975, 140 scientists from 17 countries met in Asimolar to discuss DNA-replication experiments, the associated dangers, and possible safety measures. Just a few months later, in 1976, (West) Germany's Federal Ministry for Research and Technology¹ (henceforth: BMFT) set up an expert committee, composed entirely of scientists, on 'Safety Regulations for Research into the In Vitro Recombination of Nucleic Acids'.² In March 1977, the committee submitted the first proposal for safety regulations. They were practically identical to those proposed in the USA in 1975 by the NIH (National Institute of Health). On 21 January 1978, the German committee produced the *Regulations concerning the Prevention of Danger from the In vitro Recombination of Nucleic Acids*.³ These regulations were modified over the next few years to cope with questions arising from new developments in research. However, they were binding only for federally funded research projects (at Max Planck Institutes, by the German Society for the Advancement of Scientific Research,⁴ etc.) and for research projects under the responsibility of the federal states (mainly those at universities); they did not apply to private or industrial research.

As these regulations did not bind everybody, a *law* regulating the recombination of DNA was felt to be necessary. The first proposals in that respect were developed by the Enquete Commission 'Chances and Risks of Genetic Technology',⁵ which was set up by the German Parliament in June 1984 and presented its final report in 1987: *The Report of the 10th German Parliament's Enquete Commission, 'Chances and Risks in Genetic Technology'*,⁶ referred to, henceforth, as BCRG.

A first draft of the *Law to Regulate Questions of Genetic*

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Technology (GenTG),⁷ following, to a large extent, the BCRG suggestions, was passed by the Federal Cabinet in July 1989, and the law became effective on 1 July 1990.

The essentials of *GenTG* are these:

- § 5: a board of experts within the Federal Ministry of Youth, Family, Women and Health⁸ (BMJFFG), called the Central Commission for Biological Safety,⁹ is to be established; its task is to watch over the observance of *GenTG*;¹⁰
- § 6: a registration of all research in genetic technologies is made compulsory; exact records must be kept of the aims of research as well as all steps and procedures within the research process;¹¹
- § 7: research in genetic technologies is classified on four safety levels;¹²
- § 8: research plans of the least risky types are subject to registration only; all others are subject to permission.

Right from the beginning, *GenTG* has not been without critics. While environmental organizations think that the safety regulations concerning the release into the environment of genetically altered organisms are too lax and that the public has too little control over such activities,¹³ the industry feels that, by the compulsory disclosure of their plans and the partly tedious procedures of registration and permission, their foreign competitors will get the better of them.

Meanwhile, the companies' critique has triggered endeavours to modify *GenTG*; work in genetic technologies is likely to become less restricted. In particular, the national and international trade with genetically altered organisms and their release into the environment will probably be made easier; it would be permissible to register projects, and to request permission for them at shorter notice; and the right of the public to a say would be restricted. These modifications can be expected to become effective in 1993 or 1994.

3 THE SEARCH FOR MORAL STANDARDS

The problem of finding safety regulations is, roughly speaking, *how* to make sure, by technical or political means, that threats to life and health will not arise. That such threats *are* bad and *ought* to be avoided is a moral truth too obvious to be denied, and hence too

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obvious to require large-scale discussions.

But there are, of course, genuinely *moral* problems involved in genetic technologies. People wonder (or dispute about) what, in the end, we ought to do; what actions we ought to refrain from; which types of interference with nature and which results of such interference are desirable, and which are not.

These problems receive more attention the closer genetic technologies come to areas considered as morally sensitive, like (paradigmatically) man.

The issues here will be clarified as we go along, but for the moment, they can be classified as shown in Figure 13.1.

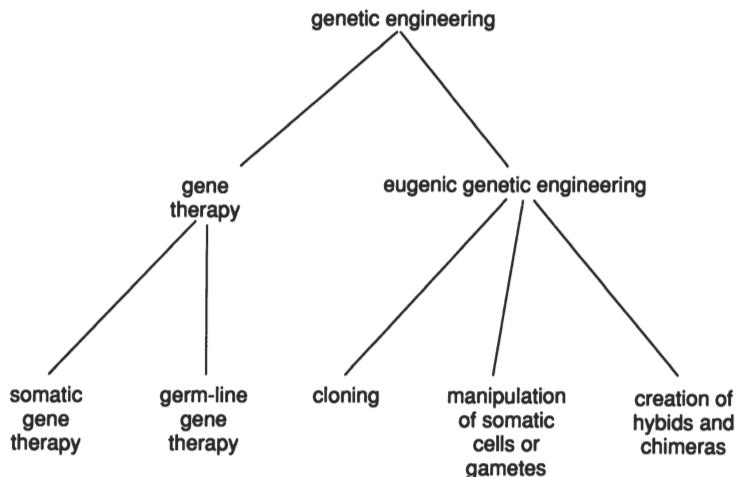


Figure 13.1 Genetic technologies

3.1 Gene Therapy

3.1.1 Somatic Cell Gene Therapy

Somatic cell gene therapy is the correction of genetic deficiencies in *somatic* (i.e. *body*) cells by production of new DNA and its insertion into these cells (see Suzuki *et al.* 1989: 727, 735). Hence, somatic gene therapy is only concerned with the full or partial healing of the *patient who actually exhibits the genetic defect*.

In Germany there is a widespread consensus that this is a good

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thing: as soon, that is, as the techniques for such treatment are actually perfected – which is considered likely to happen.

The argument here is based on the method's strong similarity to conventional and certainly unobjectionable medical procedures:

Somatic gene therapy is a special form of substitution therapy. The absent body function is replaced not by hormone injection or the transfer of foreign organs but by transferring genetic material in the form of cloned DNA. The transfer of genes must be evaluated in the same way as the transfer of living material.

(BCRG, p. 83)¹⁴

The comparability of somatic gene therapy with other medical methods also determines the legal position. Though very little is known about gene transfer into somatic cells, and though this practice, therefore, is viewed primarily as an experimental measure on human beings, it is possible to subsume it under the traditional legal concept of a 'new ground operation' (*Neulandoperation*). Thereby, the question whether *in principle* somatic cell gene therapy is legal is already answered in the affirmative; it is 'only' the exact conditions which are legally restricted. In particular, the patient's informed consent does not suffice to justify the interference with his 'physical integrity'; a *concrete* medical cost/benefit analysis is needed as well.¹⁵ With this, the German legislation moves within the internationally accepted norms, and, specifically, in accordance with the guidelines laid down by the European Medical Research Council in 1987.

The boundary between illness and pure abnormality may be difficult to define. The main risk of somatic gene therapy, therefore, is seen in its possible use for breeding purposes (see below, section 3.2). For that reason it has been requested, even by those welcoming the *medical* possibilities of somatic gene therapy, that there be 'a clear catalogue of inherited illnesses that come into question for such treatment' (BCRG, p. 183).

Most of those who refuse to support even truly therapeutic somatic gene therapy and call for a clear prohibition of further research use varieties of arguments from (allegedly) false priorities.

The first argument is the argument against reductionist medicine. It goes without saying that the curing of illnesses is in the interest of mankind. Yet, for the Green Party, for example, somatic gene

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therapy is part of 'a tradition of medical activity that conceives of a human being as an ensemble of separate cells/organs treatable in themselves. The influence of such factors as the condition of the body as a whole, the history of the illness and the reasons for its development are thereby marginalised or even negated' (BCRG, p. 324). A policy aimed at the welfare of mankind and of the environment would consist not only in the healing or alleviation of maladies, but more importantly prophylactic measures.¹⁶

Foresight is certainly better than hindsight. But what if we *did* take all conceivable precautions and *then* fell ill (as is, no doubt, possible)? It is hard to see how an appraisal of prophylaxis can provide an argument against cures.

The second argument is the argument from injustice in the allocation of medical resources. Considerable means (money and research capacities) are being deployed for developing somatic gene therapy, although the number of illnesses treatable that way is small and their occurrence rare. Given that resources are limited and that four-fifths of the world's population have no access to modern medical care at all, the luxury of somatic gene therapy cannot be justified morally.¹⁷

Of course, this argument does not succeed in making a point against somatic cell gene therapy in general, but is, at most, a demand that other problems should be dealt with simultaneously or initially.

3.1.2 Germ-line Gene Therapy

While there is a widespread, though not total, consensus in Germany that somatic gene therapy can develop into a good thing, there is a comparable quasi-consensus *against* the removal of genetic deficiencies by inserting DNA into germ cells (eggs and sperm) or into the cells of a pre-embryo (i.e. cells that give rise to germ cells). In other words: there is a far-reaching consensus *against* the removal of genetic deficiencies that is passed to the offspring.

The most important objections to those manipulations are as follows:

3.1.2.1 Objections against embryo experimentation. Before germ-line gene therapy could be *performed*, it would have to be *developed*. Its development would involve a massive experimentation with a great number of *in vitro* fertilized eggs or of embryos in the

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first stages of cell development, some of which would have to be produced merely for this purpose, and most of which would not survive. This cannot be justified.

This objection is voiced by politicians,¹⁸ feminists,¹⁹ both Protestant and Catholic theologians,²⁰ lawyers,²¹ and philosophers.²²

The ban on experimentation with human embryos is now firmly anchored in German law. Until recently, the law saw embryos as ‘penally irrelevant objects of experimentation’. This, however, was seen as an undesirable legal loop-hole. The resulting *First Draft of a Law for the Protection of Embryos*²³ (henceforth: *DEGSE*) proposed that the fertilization of human eggs for purposes other than their transfer to a woman should be punishable by up to three years’ imprisonment or a fine (*DEGSE*, p. 90). What was for a long time under dispute was whether research involving surplus embryos (among the embryos obtained in the process of *in vitro* fertilization, surplus embryos are those neither transferred to the uterus nor freezed for a future transfer) should be permitted under certain conditions. Among others, the following conditions were discussed: that the ‘parents’ gave their assent to experimentation; that the results could be obtained only by embryo experimentation; and that the experiments served to save other human lives.²⁴

Compared to the legislation in other countries, the *Law for the Protection of Embryos*²⁵ (*GSE*), which became effective in January 1991, is extremely restrictive. Not only does it prohibit the sale, use or acquisition of *in vitro* fertilized eggs for all purposes other than the induction of pregnancy (*GSE*, § 2),²⁶ but it also prohibits the generation of more than three embryos per IVF attempt (*GSE*, § 1, sections 3–5). Surplus embryos can therefore hardly come into existence lawfully at all, and may, in any case, not be used for research.

Most discussions convey the impression that characterizing an action as an experiment with human beings is doing more than enough to disqualify it morally. See, for example, Hans Jonas:

Experiments on unborn children are *in themselves* unethical.
(Jonas 1984a: 14; my italics)

This is a little surprising. First, there has never been a moral system (in either philosophy or religion) that included ‘Do not experiment upon thy fellow-men’ (or, as would be needed to cover the embryo case, ‘. . . upon thy *potential* fellow-men’) among its basic axioms.

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Second, the absence of such an axiom seems quite reasonable; for there are large classes of experiments on human beings (in psychology, or in testing new medicaments) whose moral permissibility nobody doubts. What's wrong with finding out how the foetus reacts to *The Little Serenade*, or how he recognizes his mother's voice? Jonas just *cannot* mean what he says. It must be *something about* experiments on embryos that makes them wrong, and it must be something about only *some* such experiments.

3.1.2.2. The argument from human dignity. One candidate for such a 'wrong-making feature' of some experiments is their violating human dignity (*Menschenwürde*):

Experiments [on human embryos] [...] are research consuming embryos. Only a *prohibition* can prevent that violation of human dignity. Where the violation of human dignity starts, it sets absolute limits to the freedom of research, if that freedom applies at all to the experiments in question.

(Vitzthum 1987: 256f.)²⁷

Human dignity is (like sauerkraut) not exclusively German, but a German speciality. The reason is that it figures at a prominent place in the German constitution: 'Human dignity is inviolable' is the constitution's first sentence, and therefore the term looms large in our country's legal and (as a consequence, in its) moral discussion and consciousness.

In order to find out which actions respect for human dignity does or does not permit or prescribe, we have to know what human dignity *is* or, in other words, what 'human dignity' *means*. What we find in the relevant canonical interpretations of the constitution²⁸ is an enumeration of types of actions that are held to be invasions of human dignity. Actions of these types are said to reduce man to a mere means.

That wording occurs frequently and is a reference to another dominant and much-quoted landmark in German moral and legal reasoning: Immanuel Kant. 'Man', says Kant in the *Groundwork of the Metaphysics of Morals* (GMS),²⁹ 'and in general every rational being, exists as an end in himself, *not merely as a means* for arbitrary use by this or that will' (GMS, p. 428/95), and in so far he has in himself 'an absolute value' (GMS, p. 428/95), an 'intrinsic value – that is, dignity' (GMS, p. 435/102). According to Kant, human nature, thus defined, yields the categorical imperative: 'Act in such a

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way that you always treat humanity, whether in your own person or in the person of any other, never simply as a means, but always at the same time as an end' (*GMS*, p. 429/96).³⁰

What the principle of human dignity forbids, then, is making man a mere means. Yet what does it mean to make someone a mere means? It means to ignore his ends; to treat his preferences as irrelevant.³¹ But embryos do not *have* preferences; *a fortiori* none that we could ignore: hence, *whatever* we do with embryos, we do not thereby violate their human dignity, for it *cannot* be violated.

It may be objected that embryos have *potential* preferences, and that it is our duty both to see to it that these preferences become actual (which they don't if the embryo is destroyed in an experiment) and that they are satisfied. But if we had a duty to actualise potential preferences, we would also have a duty not only to let foetuses survive but to bring them into existence, a duty, that is, to procreate. Everybody denying that duty (and that means almost everybody *tout court*) must deny an embryo's right to life as well.³²

3.1.2.3. The argument from self-determination. But what if the embryo is not destroyed? Can one not violate somebody's human dignity if in his embryonic state one does things to him that cause him to be later, in his adult life (when he *has* preferences), deeply unhappy? One certainly can. Here (when we look at the *future adult's* preferences) the principle of human dignity indeed forbids some types of manipulations – namely those rendering the future person unhappy. However, it speaks *in favour* of others – namely those rendering the future person happier, for example healthier, than he would have been if 'un-manipulated'.

Unfortunately, many people miss the last bit. Thus, philosopher Walther Chr. Zimmerli:

today we living individuals [would] thereby present entire generations after us with an altered genetic structure . . . about which they had not been consulted. It is, therefore, as it were, a self-experiment with the forced participation of future generations, in which the fundamental right of every man to be consulted whenever he is personally affected, a fundamental right not disputed in any ethic, would be eliminated.

(Zimmerli 1985: 78)³³

Was Mr Zimmerli consulted about his own genetic make-up? Or, for that matter, about his being born at all? If not, does he think of

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this as an injury to his fundamental right to autonomy? It certainly violates 'the fundamental right of every man to be consulted whenever he is personally affected'. It looks as if the pre-natal observance of this right is a pretty general problem.

Given that self-determination is not at all at issue (because it is equally absent in *all* cases of bringing people into existence), why not make the best of the unavoidable fact of non-self-determination? Suppose the medical techniques were at your disposal; suppose you had refused to use them and your daughter had therefore been born with a serious, now incurable defect that you knew you could have avoided. 'Mummy', she will ask one day, 'why did you prefer my being ill to my being healthy?' 'Respect for your self-determination, my love'.³⁴

3.1.2.4. The slippery-slope argument. Germ-line gene therapy is the first step towards the morally reprehensible breeding of human beings.

Hans Jonas, for example, admits that gene therapy of germ-line cells pursues *some* worthy ends (see Jonas 1984a: 14). But in performing it,

we would open up a Pandora's box of melioristic [What's wrong with making things better?], unpredictable [see 3.1.2.5 below], inventive [What, like da Vinci's? God help us.], or simply perverse-curious adventures, abandoning the conservative spirit of genetic repair for the path of creative arrogance. We are not authorized to do this [By whom? Who authorizes me to wear socks? If nobody, is it forbidden?], and we are not equipped for it – not with the wisdom, not with the knowledge of value, not with the self-discipline. And no longer will a tradition of reverence protect us, the demystifiers of the world, from the enchantment of thoughtless crime. Therefore, let the box remain unopened.

(Jonas 1984a: 14)³⁵

Slippery-slope arguments adduce undesirable scenarios from the bottom of an alleged slope. But if the scenarios' badness is sufficiently obvious *for the argument to work*, it is also sufficiently obvious *for us to avoid them* and to rule them out by law. Two-thirds of the way down the slope, actions may be waiting for us that are bad too, but less obviously so. But then we can avoid the doubtful area as well and remain in the realm of the good. Hence,

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failure to do the obviously good cannot be justified the way Jonas tries to justify it.³⁶

3.1.2.5. The argument from unpredictable consequences. According to this (less frequent) argument:

A germ-line gene therapy must be unequivocably rejected because of the unpredictable consequences for the individuals and their offspring.

(*Rules concerning Gene Therapy with Human Beings, § 3*)^{36a}

Predictability, however, is a matter of more or less. (If I play dice, for instance, I do not know *which* number will come up, but I still know it will be a natural number between one and six.) And in many contexts (like the one at hand), *precise* prediction of the outcome is not necessarily important. What counts is whether there is a genuine risk of a *morally problematic* consequence. But this is not obviously so (if we discover the embryo to be a monster, we can still destroy it, which is in itself morally harmless: see above, section 3.1.2.2). Note also that, like so many other arguments reported here, this one is, once it has spotted a risk or a disadvantage, desperately oblivious of weighing it against possible or even certain benefits. We are talking about *medical* experiments, i.e. experiments aimed at relieving suffering. If they involve suffering at all (which is quite doubtful), then it's still only suffering against suffering, and there is no way round asking *how much* suffering could be relieved, and *how much* could be caused.

3.2 Eugenic Engineering

'Eugenic genetic engineering' or 'positive eugenics' means the 'improvement' of complex human traits, each of which is coded by a large number of genes (for example intelligence and formation of the body), by manipulating particular genes in somatic cells or in germ cells, by asexually reproducing a human organism that exhibits the 'positive' traits (cloning) or by producing crosses between humans and animals (hybrids and chimeras)^{36b}).³⁷

By and large, the German public reject this possibility even more radically than that of germ-line gene therapy.³⁸ Most of the discussion on eugenics is not so much an argumentative critique as a purely rhetorical exercise, where what counts is insults rather than reasons. 'Eugenics' itself is in most contexts used as if it were an

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invective. Equating ‘eugenics’ and ‘breeding’ brings to mind pictures of our treating humans like cattle. Talk of the ‘hybris of desiring improvements’ (Broch 1989: 404), the ‘path of creative arrogance’ (Jonas 1984a: 15) and the ‘boundless over-estimation of self-importance’ (Eibach 1983: 182) replaces talk of pros and cons. Talk of a ‘disguised attack on the life of handicapped people’ (Aurien 1990: 55) or simply ‘the “new” Eugenics’ (Goettle 1990: 70) insinuates a relevant resemblance between eugenics and those Nazi crimes euphemistically called ‘eugenics’ by the fascist propaganda machine.³⁹ Together with technologies in reproduction, eugenics is considered to be not only racist, but also sexist and a ‘patriarchal war against women’ (Mies 1986: 44). More explicitly:

The possibilities of a new eugenics on a world scale, a scale that would make Hitler’s racial policy look like a children’s game, are not the unwanted by-products of genetic and reproduction technologies; rather, these possibilities are at the core of such technologies. For if the aim were not a systematic policy of elimination and selection, to what end does one manipulate the gene at all? Life, and now man as well, is to be adapted to the necessities of the industrial system. What we know of the respective developments in the USA suffices to recognise the relationship between sexism, racism, and these technologies.

(Mies 1986: 45ff.)

But we should not forget to mention the few endeavours to actually *argue* the case against eugenics.

3.2.1. Again, various forms of the argument from human dignity are to be found.

3.2.1.1. We are already acquainted with the most important type; it is by being made a mere means that a person has his dignity infringed. Since we have already discussed this type of argument in some detail (see 3.1.2.2), we may be brief here. Philosopher Günther Patzig writes:

It would be a deviant and, clearly, a morally reprehensible idea to ‘breed’ . . . a class of non-aggressive, mentally very limited individuals who would probably be entirely happy with industrial working conditions intolerable for man as we know

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him. Yet such a production of human beings for the ends of other human beings would clearly go against the principle of human dignity. Here human beings would indeed be made mere means. This would also be an infringement of justice, in so far as the individuals created could not agree to such a procedure and would even have to reject it decidedly.

(Patzig 1988: 36)

The first thing one notices here is the rash step from ‘for the ends of others’ to (my emphasis) ‘mere means’. In general, that step is as valid as inferring from the existence of apples that all there is is apples. Moreover (and more specifically), in Patzig’s scenario, the new guys *are* ‘entirely happy’: so where have their ends been ignored? And, for the same reason, how do we know that (even in a hypothetical choice situation) they would reject that arrangement?

3.2.1.2. Thomas Broch (who at that time ran the public relations department of the largest German Catholic charity organization, the Deutscher Caritasverband), must face a similar question to the one we put to Zimmerli (see section 3.1.2.3), when he writes:

In the area of genetic technologies, that verdict⁴⁰ also rules out . . . all measures related (one way or the other) to the improvement, that is, to the ‘eugenics’, of *human life*, indeed all measures presuming to breed or construct (in accordance with any criteria whatsoever) ‘more ideal’ or just ‘more useful’ people. The most noteworthy case this applies to is the development of human–animal hybrids. But the *transfer of information into gametes* is subject to that evaluation, too . . . To a degree, cases of *in vitro* fertilization with the biological parents not knowing each other imply such a hybris of wanting to improve things. It goes without saying that the *cloning* of human individuals falls within this judgment. . . . All these are flagrant cases of control and determination of future human beings’ identity. . . . The creative will of people alive today would exert power upon the personal essence and identity of future individuals, without these individuals’ having a possibility to receive reparations, or an opportunity to call those who have misused their power to account.

(Broch 1989: 403f.)

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All this, of course, holds true for ordinary old-fashioned love-making run-of-the-mill parents as well.⁴¹

3.2.1.3. A different type of the argument from human dignity goes back to Hans Jonas and is an argument, not against positive or negative eugenics in general, but against cloning. It amounts to claiming a sort of right to uniqueness. As lawyer Arthur Kaufmann puts it:

A man who is conscious of the fact that he has already existed as someone else has all naturalness, all spontaneity, all the unburdened who-knows-whence? of existence taken away from him, for his fate stands before him like a mirror before his eyes. He is robbed of the primordially human experience of freedom . . . , because, to refer to Hans Jonas, man can be free only to the degree to which he does not know his own fate (as far as it is genetically determined).

(Kaufmann 1985: 272f.)⁴²

If *consciousness* of non-uniqueness were the moral problem, one might be tempted to object, then why not solve it by hiding the relevant facts from the cloned offspring? This, however, would involve major technical and moral problems, most notably the frustration of people's desire to know who they are and where they come from. Secrecy or deceit are no way out, then, and Kaufmann seems to be justified in disregarding these options altogether. The question remains how Kaufmann knows that people *want* to be genetically unique. *If*, but *only if*, they do, then cloning violates somebody's right to uniqueness.

3.2.2. The doctrine of the inviolability of human nature is an endeavour to argue the case against eugenics in general. The Evangelical Church of Germany, for instance, considers cloning, as well as the construction of chimeras and hybrids, as morally prohibited, because 'the *given form of human life*' (EKD 1987: 126; my italics) is thereby injured. For lawyer Erwin Deutsch, any experiment attempting to produce a combination between an animal and a human being contradicts the *essence of humanity* and is, accordingly, 'unethical' (Deutsch 1985: 93). And philosopher and lawyer van den Daele expresses his misgivings as follows:

If we leave man as he is, then we probably miss out the

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technical possibilities of problem-solving in a few cases. But we can't be completely wrong. And there is no moral liability for abstaining from reform of human nature.

(van den Daele 1985: 209)

But the doctrine of the inviolability of human nature is problematic. Attempts to spell it out tend to yield either absurd or pointless versions. If, for example, we take the doctrine to forbid any interference with human nature, this will rule out not only medicine but most forms of environmental and social changes. If, to quote another example, we take it just to forbid the direct alteration of genes, this rules out negative as well as positive eugenics. (Even if you welcome that result, the question remains where you get that prohibition *from*. You hardly want 'Don't fiddle around with genes' to be a moral *axiom*, do you? If such fiddling is wrong, then, presumably, it is because there is *something about* it that *makes* it wrong. But what?) Perhaps, in the end, we don't want the doctrine to mean anything but a ban on positive eugenics. But if it's synonymous with the ban, it can hardly justify it.

To the contrary, it is then in need of a justification as much as the ban itself. It is far from obvious that we must preserve all the characteristics that are natural to us, such as vulnerability to sickness, aggression, brutality and insincerity. Why should it be of intrinsic worth to protect these attributes? Imagine that by snapping your fingers, you could bring about a world in which human nature was changed, a world without these attributes. What would be wrong with that?

This is not to say that there are no good arguments against positive eugenics at all, but only that the inviolability of human nature itself is in need of an argument. Perhaps the most plausible argument against positive eugenics rests on a general objection to any group of people trying to plan too closely what human life should be like.

The present genetic lottery throws up a vast range of characteristics, good and bad, in all sorts of combinations. The group of people controlling a positive engineering policy would inevitably have limited horizons, and we are right to worry that the limitations of their outlook might become the boundaries of human variety.

(Glover 1984: 47)

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And even if a genetic supermarket could solve *this* problem, it would seem to be highly probable that human variety would be lost, for instance by fops. These are genuine dangers, constituting one genuine counter-argument. But the inviolability of human nature plays no part in it, nor should it:

Preserving the human race as it is will seem an acceptable option to all those who can watch the news on television and feel satisfied with the world. It will appeal to those who can talk to their children about the history of the twentieth century without wishing they could leave some things out.

(Glover 1984: 56)

4 CONCLUSION

Of course, there *are* proponents of research into (and, in case it works, application of) most forms of genetic technologies in Germany as well. They are in a minority. They see weaknesses (some of which I have tried to point out above) in their opponents' arguments; given a specific procedure, experiment or technology, they are ready to weigh its risks against its possible benefits, and in some cases reach the conclusion that, all things considered, we ought to try it. Both their critical and their constructive arguments are extremely similar to those of the leading English-language philosophers working in the field (see, for instance, Glover 1984; Harris 1992; Singer and Wells 1984). We touched only briefly on *these* arguments because they were outside the scope of this chapter; we thus had to look primarily at the main manoeuvres *against* most forms of genetic engineering, and at their sources. Hardly anywhere else is the public's opinion against the technologies in question as united and as strong as in Germany, and hardly anywhere else is the pertinent legislation as restrictive. The forces we find are these: the influence of the German constitution (hence the ubiquitous references to 'human dignity'); the influence of Kant (hence 'autonomy', 'end in himself', 'mere means', 'categorical imperative'); the frightful tendency to firmly adhere to simple, rigorous rules of thumb ('whatever the consequences', which is again partly due to Kant); the influence of centuries of hazy pseudo-rational philosophy (hence: more poetry than reasoning, more rhetoric than logic, and more quotations than arguments); the Christian churches' unbroken influence on morals and public affairs, including

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legislation (hence: premises, moral judgments and legal regulations, for example on the unconditional protection of all forms of human life, which both stem from religion and can hardly be justified without it); and an unreasonable way of adducing Germany's Nazi past. (No doubt maximum care should be taken to remember Nazi crimes and to avoid their repetition; maximum care also to remember its pseudo-scientific and pseudo-ethical verbal roots and upshots. But from 'Hitler said that *p*' one cannot conclude that *p* is false. What if *p* were ' $2 + 2 = 4$ '?) – so much for the main manoeuvres and their sources.

NOTES

I am grateful to everyone who helped to make this chapter better than it would otherwise have been, particularly to Christoph Fehige, for making several suggestions and comments and going through various drafts, and to Andrew Wilson, for translating it from German into English.

- 1 Bundesministerium für Forschung und Technologie.
- 2 *Sicherheitsrichtlinien für Forschungsarbeiten über die In-vitro-Neukombination von Nukleinsäuren.*
- 3 *Richtlinien zum Schutz vor Gefahren durch die in-vitro-neukombinierten Nukleinsäuren.*
- 4 Deutsche Forschungsgemeinschaft.
- 5 *Chancen und Risiken der Gentechnologie.* The committee consisted of nine German Members of Parliament and eight experts; there was no philosopher. Its objective was described as the following: 'to discover the main problem areas in contemporary genetic technologies and related bio-technical research. . . . Whereby economic, ecological, legal, and social consequences should stand in the foreground. In addition the ethical aspects of the shadowy area of genetic technologies' application to humans should be taken into special consideration' (*Bericht der Enquete-Kommission 'Chancen und Risiken der Gentechnologie' des 10. Deutschen Bundestages*, p. 1).
- 6 *Bericht der Enquete-Kommission 'Chancen und Risiken der Gentechnologie' des 10. Deutschen Bundestages.*
- 7 *Gesetz zur Regelung von Fragen der Gentechnik.*
- 8 Bundesministerium für Jugend, Familie, Frauen und Gesundheit.
- 9 Zentrale Kommission für Biologische Sicherheit.
- 10 The committee is composed of ten experts as well as one union representative, one member of the industrial safety organizations, and one representative each from the fields of business, environmental protection and funding. The members serve for three years. They are appointed by five ministries, under the superintendence of the BMJFFG. The members act independently and are not bound by directives of any kind.

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- 11 The requirements increase according to the degree of danger involved in research and production. In certain circumstances, every step of the research must be finely recorded so that, even years later, the entire research and production process can be fully reconstructed.
- 12 Security level 1 comprises work in genetic technologies that, according to the standard of science (sos), is of no risk to human health or the environment. Security level 2 includes work that, according to the sos, involves a mild risk for human health or the environment. Security level 3 consists of work that, according to the sos, is moderately risky for human health or the environment. Activities that are (or can, on good grounds, be suspected to be), according to the sos, highly risky to human health or the environment, are on level 4.
- 13 Members of the public are allowed to ask questions at official hearings if a laboratory or a production plant concerned with genetic technologies is to be built in their area. See *GenTG*, § 18.
- 14 In 1989, the German Association of Physicians (Bundesärztekammer) put things similarly in their policy statement *Rules concerning Gene Therapy with Human Beings* (*Richtlinien zur Gentherapie beim Menschen*) (*RGTM*): ‘Somatic gene therapy represents a special form of substitution therapy. . . . Although this therapy commences on the level of inherited information, intrinsically it poses no new ethical problems because it is limited in its effects to the patient who is being treated’ (*RGTM*, § 2.2).
Assuming that the research work towards such gene therapy leads to a good therapy-scheme with high success rates, many people feel that somatic gene therapy is actually less problematic, from a certain point of view, than organ transplants. In so far as the implantation of genetically altered somatic cells in patients from whom they were initially taken is a particular form of auto-transplant, the rejection syndrome characteristic of heterologous organ transplants cannot occur; nor is there a donor problem. See *BCRG*, p. 183.
- 15 See Hülsmann and Koch 1990: 35, as well as Vitzthum 1987:272. See also the *Rules concerning Gene Therapy with Human Beings* (*Richtlinien zur Gentherapie beim Menschen*), § 2.3.
- 16 See also Rainer Hohlfeld (from the Hamburg Institute for Social Research (Hamburger Institut für Sozialforschung)): genetic engineering is the ‘ultimate logical conclusion of scientific reasoning and experimental biomedical research’ (Hohlfeld 1989: 170), which reduces the cause of the illness to one single factor, namely the ‘biomedical effect’. ‘If biomedical research proceeds that way, its construction of reality is, therefore, a-ecological, ahistorical and asocial. The phenomena of life have a dimension that is psycho-social, ecological, subjective and linked to natural history; modern medicine refuses to see this dimension and for its resulting blindness is correctly criticized today as insufficient’ (Hohlfeld 1989: 179).
See also the resolution passed by the participants of the ‘Women against Genetic and Reproduction Technologies Congress’: ‘Genetic and reproduction technologies offer medicine a growing arsenal of methods by which to fight symptoms. The principle of “self-imposed”

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illnesses is placed at the forefront. Hereditary factors are made responsible for people responding to progressive environmental destruction and pollution with illnesses (*Resolution*, p. 17).

- 17 See Bayertz 1991: 302 and van den Daele 1985: 187.
- 18 See, for example, the majority vote of the Enquête Commission: 'The effective development of germ-line gene therapy currently presupposes an experimental "consumption" of embryos that can under no circumstances be accepted,' (BCRG, p. 189). The passage is accompanied by a reference to a part of the World Medical Assembly's declaration (Helsinki/Tokyo, 1975), saying that in experiments on human beings concern for the interest of the 'test subject' must always prevail over the interests of science and society.
- 19 See, for example, Mies 1986: 98, on genetic technologies and embryo experimentation: 'What kind of research is it that wants to slaughter . . . human beings for the sake of science and its own ends? I call it a *cannibalistic research*, although I am aware of the fact that I probably do the cannibals an injustice. . . . What is clear, at any rate, is that they [the scientists] will have to cast all scruples concerning the integrity of persons aside, if they want to have sufficient "raw material" for their extravagant research.'
- 20 The Evangelical Church of Germany (Evangelische Kirche Deutschlands (EKD)) explained: 'Deliberate manipulation of human embryos that would anticipate the destruction of such embryos is not morally tenable,' (*Announcement of the 7th Synod of the Evangelical Church of Germany (Kundgebung der 7. Synode der EKD)*, p. 126). At the national level, the Catholic Church has not made any similar statement. But in the *Instruction concerning the Respect for the Beginnings of Human Life and the Dignity of Reproduction (Instruktion über die Achtung vor dem beginnenden menschlichen Leben und die Würde der Fortpflanzung)* of 3 October 1987, the Vatican Congregation for the Propagation of the Faith declared: 'No projected goal, no matter how noble such a goal, as for example its future value for science, other human beings or society, can justify any form of experimentation with living embryos or foetuses, whether they are capable of life or not, whether they are *in vivo* or *in vitro*', (IALWF, p. 17).
- 21 See the report of the civil law section of the 56th Lawyers' Society Congress (*Juristentag*), the regular meeting of the German lawyers: 'There is unanimity . . . that it should only be legal to generate embryos if this is not done for research purposes and if their subsequent reimplantation and their full development to human life are aimed at' (Franzki 1987: 39).
- 22 See, for example, Reinhard Löw: 'No matter how worthy the goal, it cannot heal a means that is inherently bad – as the intervention in the personality of a human life' (Löw 1983: 44). It is clear from the context that by 'intervention in the personality of a human life' he refers to embryo experimentation. See also Birnbacher 1987: 83; Wimmer 1990: 66.
- 23 *Diskussionsentwurf eines Gesetzes zum Schutz von Embryonen*. That draft was based on the report of what became known as the Benda

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Commission (Benda Kommission). In May 1984, a working party, ‘*In vitro* Fertilization, Genome Analysis and Gene Therapy’ (*In-vitro-Fertilisation, Genomanalyse und Gentherapie*) was set up by the Federal Ministry of Justice (Bundesjustizministerium) and the BMFT, under the direction of Ernst Benda, former president of the Federal Constitutional Court (Bundesverfassungsgericht). The Benda Commission concerned itself in particular with the legal and ethical questions stemming from any of the above-noted techniques and, in its final report, made large numbers of suggestions for possible legal measures. See *In Vitro Fertilisation, Genome Analysis and Gene Therapy. Report of the Working Party of the Federal Minister for Research and Technology and of the Federal Minister of Justice (In-vitro-Fertilisation, Genomanalyse und Gentherapie. Bericht der gemeinsamen Arbeitsgruppe des Bundesministers für Forschung und Technologie und des Bundesministers der Justiz)*.

- 24 Such conditions were proposed, for instance, by the Benda Commission (see note 23 above), §§ 2–3 of its report (see note 23); see also the *Regulations for Embryo Experimentation (Richtlinien zur Forschung an frühen menschlichen Embryonen)* of the German Association of Physicians (Bundesärztekammer), §§ 3.1.1–3.1.3; the *Report of the Interministerial Commission for the Clarification of Bioethical Questions (Bericht der interministeriellen Kommission zur Aufarbeitung von Fragen der Bioethik)*, thesis IV. (The interministerial commission was set up in 1985 by the Rhineland Palatinate Minister of Justice.)

The Max Planck Society (Max Planck-Gesellschaft) (MPG), asked to comment on the DEGSE, pleaded for the lawfulness of embryo experimentation (as a part of academic freedom). See Hofschneider 1989: 14. One year later, however, the MPG revised its position, reacting to the angry critique by the public. It decided to do without embryo experimentation. See Meermann 1988: 9–11 and Hofschneider 1989: 16.

For restrictive regulations (or pleas for them), see the *General Policy of State Regulations concerning Reproductive Medicine (Gesamtkonzept staatlicher Maßnahmen in der Fortpflanzungsmedizin)*; the *Proposals on Reproductive Medicine and Human Genetics from the German Judges’ Organization (Thesen des Deutschen Richterbundes zur Fortpflanzungsmedizin und zur Humangenetik)*; § 2 of the *Second Draft of a Law for the Protection of Embryos (Arbeitsentwurfs eines Gesetzes zum Schutz von Embryonen)*, of the *Third Draft of a Law for the Protection of Embryos (Entwurf eines Gesetzes zum Schutz von Embryonen)*, and of the *Law for the Protection of Embryos (Gesetz zum Schutz von Embryonen)*.

- 25 *Gesetz zum Schutz von Embryonen*.

- 26 More explicitly: ‘(1) Whoever sells, transfers or acquires an *in vitro* fertilized embryo or an embryo that was extracted prior to its attachment to the uterus, for purposes other than its preservation, will serve up to three years in prison or will pay a monetary fine. (2) Whoever effects the extra-uterine development of a human embryo for purposes other than the induction of a pregnancy will be subject to punishment. (3) Intent is also punishable,’ (GSE, § 2).

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27 See also philosopher Reiner Wimmer, who says that the categorical imperative asks us to respect the autonomy and dignity of man; and that, accordingly, it forbids the use of man as a mere means. ‘In my opinion total instrumentalization occurs if parents, experimenters, or others dispose of a human life at will – even when it is an early life, one without personhood but with the potential to it’ (Wimmer 1990: 63).

Similarly, the Vatican: ‘To use the human embryo or the foetus as an object or a means for experiments is a crime against their dignity as human beings, for they are due the same right and respect as a born child and every human person’ (*Instructions concerning the Respect for the Beginning of Human Life and the Dignity of Reproduction (Instruktion über die Achtung vor dem beginnenden menschlichen Leben und die Würde der Fortpflanzung)*, p. 17).

And lawyer Moni Lanz-Zumstein declares: ‘It would contradict the constitutional guarantee of human dignity, and the spirit of this fundamental value, if embryos were produced for mere research purposes. . . . The objectivation and determination of human life as a mere means to an end is manifested here in its most extreme form. Human life would serve here as a thing freely disposed of and extrinsically determined, to be used for the purposes and goals of others. Not even the highest research goals can justify the artificial creation of human beings, regardless of whether the experiment is consuming embryos or whether it is attempting to keep them alive artificially’ (Lanz-Zumstein 1986a: 105).

28 Cf., for example, Maunz/Dürig 1989, article 1, § 1, 28.

29 *Grundlegung der Metaphysik der Sitten*.

30 More explicitly: in *GMS* Kant tries to prove *a priori* that there actually is an absolute practical law, the categorical imperative. He says that if there were something which could be the ground of a possible categorical imperative, it would be something whose existence has in itself an absolute value, something which has an end in itself. (Ends that a rational being adopts as effects of his actions (material ends) are only relative: it is merely their relation to the subject’s preferences that gives them their value.) And then Kant says: in fact, there is something which has an end in itself: it is man, and in general every rational being. *Ergo*: the categorical imperative. Of course, for the inference to be valid Kant should have said: everything that has an end in itself is the ground of the categorical imperative.

31 See Hare 1993. For a weaker explanation going roughly in the same direction as ours, see philosopher Norbert Hoerster: ‘Human dignity is *not* . . . a given, recognizable something (as, for example, with human life) that allows an objective determination of which actions harm or protect it. To be sure, the concept of human dignity is not of a *purely* normative nature; . . . it has . . . a descriptive element, namely that man is by nature capable of self-determination. The unavoidable and decisive questions that determine the meaning of the term “human dignity”, i.e. those asking which forms of self-determination are *morally legitimate* (whether, for example, murder, the death penalty, suicide, bodily injury, sale of labour power, sale of sexual services, polygamy, sodomy,

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abuse of animals [are morally legitimate]), are and remain questions of value' (Hoerster 1983: 96).

32 For a more detailed discussion on merely potential preferences see Wessels 1994, and *Verbietet das Recht auf Leben Abtreibung?* by Wessels.

33 From this, Zimmerli 'concludes': 'Specific gene transfer into germ cells must be *banned* . . . – even if this means that illnesses cannot or can only partly be avoided prophylactically' (Zimmerli 1985: 79).

See also Reinhard Löw, quoting Robert Spaemann: 'Our technical "know-how" (here our know-how in genetic technologies) . . . leads to a constantly growing power over the coming generations, and thus, from their point of view, to a domination of the dead over the living. This is an example of the "right of might", i.e. of injustice' (Löw 1983: 42). See also Birnbacher 1987: 82f.

Similar to the above is Benda 1985: 227: 'A gene transfer into germ cells means . . . a determination of the progeny by others, i.e. by parents, scientists or the state.'

34 See also philosopher Hans-Martin Sass: 'Therapy dealing with the severest of inherited mental diseases already recognizable in germ cells is not only morally acceptable but morally required. The withholding of such therapy would be morally reprehensible; it goes against human dignity, the obligation to be responsible to one's neighbour, and runs contrary to one's own conscience' (Sass 1987: 92).

35 Note that, according to Jonas, the thesis that breeding human beings should not be allowed is based on our 'duty to the existence and *essence* of future generations' (Jonas 1984b: 86; my italics). (There is even more poetry to come when Jonas 'argues' against alterations whose results may not be human beings any more. His rejection is then based upon the 'idea of man as one which demands its manifestation in the world', and upon the 'categorical imperative that there be people at all' (Jonas 1984b: 86ff.).

In comparison to Hans Jonas, see the less emotive statement of the Enquete Commission: 'Every introduction or use of gene manipulation on germ cells would certainly begin with the treatment of illnesses whose evaluation is widely agreed upon in society. But it would not necessarily remain restricted to this. If the technique of genetic correction in the germ line is established, the transition to improvement and breeding will become fluid. There is already a "grey area" in the concept of illnesses. With such attributes as small body size, low intelligence quotient, inclination to depression or displays of rage, and so forth, it is unclear when such attributes are peculiar to the individual within the broad range of natural diversity and when they are pathological. Should it be found that such attributes are, entirely or partly, genetically determined and can be influenced, the border between medically legitimate correction and breeding would be easy to shift' (BCRG, p. 189). See also lawyer and philosopher van der Daele: he emphasises, as does philosopher Kurt Bayertz (1990: 4), that germ-line gene therapy cannot, *by itself*, be evaluated differently from somatic gene therapy. But 'gene therapy of germline cells is nearer to the danger of human breeding than

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is somatic cell therapy' (van den Daele 1985: 197). Second, avoidance of misuse via the complete abandonment of the technologies would be safer than control of its application. In view of this, 'it would be better to go completely without gene manipulation, if the medical options that are thereby deleted are not extraordinary and irreplaceable. But exactly this they don't seem to be' (van den Daele 1985: 197).

- 36 See also Dieter Birnbacher's objection to this kind of slippery slope argument: it is quite doubtful whether the risks involved in the development of germ-line gene therapy can outweigh the benefits it promises (Birnbacher 1989: 218).

36a *Richtlinien zur Gentherapie beim Menschen.*

36b In general, a hybrid is an organism (or a piece of DNA) constructed from the genetic material of two different species. The word 'chimera' is often used synonymously. But, in fact, it refers to hybrids which are clearly identifiable as odd, as the sort of creature that one would call a monster.

- 37 In contrast, negative eugenics is the elimination of particular 'negative' traits, for instance by sterilizing whoever exhibits, or aborting whoever *would* exhibit, such traits.

Conceptually, the distinction between positive and negative eugenics is a little suspect. If I *reinforce* property *F*, I can always say I *eliminate* property *LACKING F*. (If in the previous sentence '*reinforce*' and '*eliminate*' change places, we get the same trick the other way round.) Notice that this has nothing to do with a slippery-slope problem: the trick works even in the clearest cases. The moral is that we should not take the expressions '*reinforce* "positive" traits' or '*eliminate* "negative" traits' at their descriptive face value, but should read them as referring each to a list of specific actions (a list 'making people more beautiful, more intelligent (etc.)' and a list 'rendering people immune to cancer (etc.)') where the two lists do not overlap. And this is indeed what everybody does before he notices the trick.

- 38 This tendency has already been visible (section 3.1.2). The fluid transition between healing and breeding was reported there to be considered as a major argument against gene therapy.

- 39 Sometimes, however, it does not stop at this allusion, at least not with Hans Jonas: 'After its terrifying experiment in recent German history, we do not need to deal in any detail with positive eugenics as a systematic human selection with the goal of the improvement of the species. Its moral and political offensiveness need no exposition in this country' (Jonas 1987: 176). See also Aurien 1990: 49: prenatal diagnosis assists 'an old eugenics in new clothes to take the stage once more'. See also Eibach 1983: 174ff.

- 40 The following verdict is meant: 'Man should never be allowed to become an instrument, a means for the ends and interests of others. In other words, man within the undecipherable, inscrutable entirety of his personal identity and uniqueness, within his philanthropy and sociability, should not be allowed to become functionalized and instrumentalized' (Broch 1989: 403).

Note that here the 'mere' that even Kant remembered is omitted right

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from the start. Thus, Broch's verdict forbids you to give anybody a helping hand.

- 41 See also Hans-Martin Sass's impressive 'inference' by means of a non sequitur, that concerns – among other things – the same critique: 'If we accept, even promote, on the one side, that there should not be any indoctrination of human beings, then we would also reject positive eugenics of human beings' (Sass 1987: 104f.; my italics).

- 42 See also Hans Jonas himself: 'The whole thing is frivolous with respect to the motives and morally reprehensible with respect to the effects: as in the case of other biological daring deeds, here just one attempt would be frivolous.' Thus, 'knowing oneself to be an imitation of a being that already revealed itself through a life would strangle the authenticity of being oneself, the freedom to discover oneself, as well as the freedom to surprise oneself and others at what is within oneself. . . . A fundamental right of ignorance, which belongs indispensably to existential freedom, is injured here anticipatorily' (Jonas 1984a: 13).

See also Ernst Benda: 'From the point of view of human dignity, there exists an elemental claim of the growing human being not to be a copy of his parents, but his or her own unique personality. This claim is justified immediately from the essence of man. The same holds from the point of view of a people or even of humanity in its entirety' (Benda 1985: 224). See also Löw 1983: 43; Honecker 1985: 154; Broch 1989: 404.

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