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# Evolution and the Question of God and Morality

## The Debate over Richard Dawkins

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### 1. Presuppositions and intellectual discourse

In *The God Delusion* Richard Dawkins propounds and defends the thesis: “I am against religion because it teaches us to be satisfied with not understanding the world.” (Dawkins 2007 a, b).

My position is the following antithesis: as a theologian I am not against agnosticism. However, some agnostics think that they comprehend the world adequately and have an explanation for all things and processes without exception, even for things and processes which they cannot sufficiently explain like the evolution of life. There are countless hypotheses about evolution as well as reconstructions of its initial developments and the conditions favorable to it—all of which should be examined—but there is no absolute certainty. In most of their explanations scientists do not take into account that advances in knowledge always entail an increase in nonknowledge as well. Advances in scientific knowledge open a vast area of potential directions in research. Surprises cannot be ruled out. The role of contingency cannot be underestimated.

Dawkins expressly rejects a dialogue on hermeneutics and scientific understanding with contemporary, well-known theologians. He is proud not to have read them (Dawkins 2007 b, 523), because they all base their reflections on the assumption that God exists. He is unwilling to comprehend or to accept that most of them suggest or even admit that this presupposition remains debatable. Moreover, he also asserts that these open-minded theologians do not represent the majority of believers—a strange argument on the level of intellectual discourse.

The medieval mystic Meister Eckhart (1260-1328) maintains that theology cannot be based on a proof that God exists, but that the theologian has the obligation to explicate his or her belief through “natural reasons.” This means that one cannot remain faithful in the face of anything contradicting rational reflections without openness to the question of God in these scientific explanations.

The controversy over moral shortcomings and moral errors in the history of Christianity, for example, is not dependent on the question whether God exists. Historical facts, ideologies, and their interpretations frequently are not dependent on the standpoint of a believer or nonbeliever. There are often concrete reasons related to belief or misconstructions of belief in a specific historical period which function as the background for reprehensible events and morally wrong actions. Dawkins' polemical characterization of Catholicism includes numerous passages on Hitler (Dawkins 2006, 272-278) as well as the reduction of Catholicism to the abuse of children and to restrictive educational methods (Dawkins 2006, 309-344).

One of the more interesting points in Dawkins' ethical presuppositions is the reversal of the authoritarian fallacy. The authoritarian fallacy is clear: an assertion is true or just, if the proper authority has proclaimed it. Then rational justification is unnecessary. In this context the infallibility of the Pope is often mentioned: admittedly, there are Roman Catholic positions which, in questions of truth and moral behavior (*fides et mores*), are not far from this kind of fallacy. But even the current, conservative Pope, Benedict XVI, appeals to the famous statement by John Henry Newman that conscience ultimately has precedence over the Pope. And conscience as an authority is not purported to be infallible. The only stipulation is that good reasons be reasons of conscience, reasons in which ultimate convictions are identifiable. The Protestant variant of the authoritarian fallacy is the strict, literal adherence to the words of the Bible, independent of their contextual foundation in historical and obsolete worldviews.

The “reversed” authoritarian fallacy posited by Dawkins means that an assertion is wrong if an authority proclaims it and asserts its truth. Dawkins' polemics against assertions made by religious authorities generally rest on the claim that an *authority* has proclaimed and urged adherence to a rule or ruling and then perhaps even persecuted the deviators. Although Dawkins is correct in inveighing against persecution and coercion, if the action undertaken by an authority is morally wrong, this by no means constitutes a proof that the original assertion is wrong. Anyone can do a number of things that are morally wrong, when acting in accordance with a truth of which he or she is convinced. But the morally wrong action is not sufficient proof that the underlying assertion is wrong as such. Nor is an assertion wrong if the reasons for its truthfulness have not been stated but have been replaced by pressure. It is clearly correct to point out this deficiency and to insist that reasons be given and submitted to rigorous intellectual examination. The difference between the lack of rational justification of an assertion, on the one hand, and the wrongness of an assertion, on the other hand, must be respected, even if someone is unable to rationally justify his or her assertions or if an authority replaces arguments with oppression.

Dawkins describes the ethics of the Old Testament as evil, appalling, nasty, and weird, the ethics of the Christian New Testament, on the contrary, as naive and ineffective. (Dawkins 2006, 237-253) He rejects the historical and critical view of this history of theonomic ethics (Old Testament) and the common secular heritage of the Ten Commandments and human rights, for example. But does historical “evolution” encompass not only change but continuity as well?

In my opinion, a critical approach which merits the designation of scientific or scholarly discourse presupposes that the best counterarguments have been taken into account. Those persons to be criticized must be invited to discern whether their positions have been described accurately and fairly. If this is not the case, if the critical approach is reduced to the intended judgment, namely, right or wrong—then any and all arguments which seem to support my assertion are welcome.

A fair discourse is conceivable and possible. I would like to give two prominent examples: Erich Fromm, a famous representative of agnostic humanism, and Ernst Bloch, a Marxist philosopher, who explicitly recognizes the religious heritage of humanist thought. Dawkins mentions the argumentation of such respected agnostics in the afterword to the paperback edition of *The God Delusion* published in 2007, but his only counterargument is that humanistically-oriented religious thinkers are in the minority. Here he confuses questions of the majority of religious believers with questions of the influence of religious fanatics and religious power extolling fanaticism.

## 2. A theory of evolution or an evolutionary worldview?

Charles Darwin's theoretical explanation of the beginnings of life on this earth is not the same as an evolutionary worldview. A comprehensive evolutionary worldview requires the transformation of a theory into a quasi-religious authority, which insists on its own exclusive truth in explaining all occurrences and developments in the history of humankind. In this manner history and the reflection on respectively the depiction of history—a very brief time in the course of evolution—serve as evidence for the evolutionary theory. But history is actually the cultural period of time in which humans reflect on their own actions in a microworld, or more specifically—before globalization—in a composite of different microworlds. In this historical microworld a macroperspective like a theory of evolution is not very expedient. The autonomy of historical development cannot be submitted to a theory of evolution even if there are potential analogies. However, in philosophical discourse, the term “analogy” actually means that the difference remains greater than the similarity. The time of evolution is a different time than the time of history. Potentially, in the time of history, if we can alter evolution through the implementation of our accelerated scientific and technological advances, history in the future may conceivably be another time of history.

For Richard Dawkins the evolutionary worldview becomes a kind of “not visible hand,” a conception deriving from Adam Smith and his successors in the economic “Wealth of Nations.” This “invisible hand” is the internal regulator of all that happens in life and in history: the egoism of the genes and selection are examples of paradigms, which allow us to not only understand the world and human

destiny, but which regulate our moral insights as well. This conception characterizing the market economy has a parallel influence on moral liberalism.

In his relativizing critique of Christian ethics, Dawkins apparently has other authorities on his side: Bismarck, for example, said that the Sermon of the Mount from the New Testament does not explain how to structure politics or political action. This is true if politics is nothing more than the struggle for power. Max Weber has spoken of the so-called *Gesinnungsmoral*, the ethic of conviction, in which the moral intention always overrules the questions of effect and effectiveness. However, Max Weber did not envision a morality with the sole intention of weighing risks and benefits without principles as criteria. This popular misunderstanding of his approach is often quoted by journalists.

### 3. Where Dawkins' provocation is justified and what is to be learned from religion

It is evident that all religions declaring God's love for humankind or advocating belief without violence have nevertheless supported hate and violence in the realization of their own projects in different historical epochs. Religions often were not able to assert and justify the truth which they wished to promote in moral practice through nonviolence. Military conquest, the Crusades and other holy wars, struggles against heresies, impediments to the rise of human rights: the history of religions is full of inconsistencies in the realization of religious truth and the realization of the vision of the perfect life and moral social institutions.

However, the realization of religious visions of the perfect life and of moral institutions has often been historically successful. The concrete realizations of religious visions are often models worthy of emulation, although they occasionally entail indications of abandoned humanist implications of the asserted truth. Religions are more ambiguous than they should be. This may be inherent in the human condition: in the name of the perfect, the realization of the imperfect is a grave danger. (Robespierre's Reign of Terror is a well-known example, though not in the area of religion!) The conclusion is that religion needs to participate in an open discourse monitored by moral reasoning and moral experience. The tradition of "natural law" in the Scholastic schools of Paris in the Middle Ages and the autonomy of reason propounded by Kant are examples of such counterbalances, which theology in different religions must continue to employ. Secular moral reasoning can also be ambiguous. Therefore, a good working relationship and mutual critical interaction between moral philosophy and moral theology are absolutely imperative.

One of the best theological arguments for this mutual process of critical questioning and monitoring is to be found in Meister Eckhart's vernacular sermon number 86, in which he asserts that the pagan philosophers (here he is thinking of Aristotle) are more precise in their concrete ethical reflections than the theologians. Meister Eckhart attributes this to the fact that their nontheological viewpoint (which he calls the "natural light of cognition") clearly reveals the distinctions which must be made in moral reasoning. Intriguingly, religious approaches to reality guided by the "supernatural illumination" of cognition cannot see these necessary distinctions clearly, because they are blinded by this illumination and cannot distinguish between light and shadow, right and wrong, in questions related to the "virtues."

### 4. The question of God, the moral tradition, and the future of ethics

Ethical rules have their roots in social and juridical rules. In ancient civilizations, for example, in Mesopotamia, these rules were combined with religious rules by a so-called covenant between state authorities and religious authorities. This covenant was ascribed to God's initiative and accepted on the basis of the belief in God's responsibility for all that happens on earth. This dimension of God was not questioned for a long time, even when a plurality of gods were instated and respected. In this historical context the biblical development of rules is apparently not unique. However, in the unbroken tradition of the Bible, there is a continuity based on early, common rules like the Ten Commandments, the vision of justice for the oppressed in the prophecies, the moral wisdom in resolving the problems of daily life, the experience of being a moral self with a moral identity also providing a social identity.

In ancient history the question remains: is God the composite of all understanding of what is good? Or is God more complex? "*Er [Gott] war nicht das Gute, sondern das Ganze*" ("He [God] was not the Good, but the Whole"), as the German author Thomas Mann writes in his biblical tetralogy on Joseph. This implies not only the distinction between the good and the right, but also the belief that God cannot be totally comprehended through moral categories. On the one hand, the religious answers to the question of what constitutes a meaningful life were not always morally practicable or tenable; on the other hand, the question of what is good and right does not encompass the question of hope central to religious belief. Belief is hope for eternal love, and is not a specific moral instruction. Belief in God cannot constitute a final foundation of ethical theory and moral practice, and moral insights do not guarantee certainty about God's existence.

Is "God" indisputably a figure of competence in the moral tradition but, following his demotion to a "delusion," worthless for ethical discourse in the future? Ethics often reflects on processes important for the future. In bioethics the question of enhancement is often a major issue. Questions related to financial crises, corruption, doping are also daily concerns of ethics. Sustainability and globalization, human dignity and human rights, the process of justice and peace, migration ... the topics related to our future are almost endless. What role will religion play in the reflection on these processes influencing the future?

One point to consider in this process is the conception of a "global ethic," formulated by the Catholic theologian Hans Küng in Tübingen. Another is the process called "peace, justice, and the care of creation." Both conceptions offer special programs for interreligious education and are open to humanist and agnostic approaches to ethics. What is problematic about Dawkins' argumentation is his insistence on exclusion. Exclusion is not always wrong. When Dawkins chooses to exclude certain proofs of God's existence, which "worship" the "gaps" of scientific explanations, because they seemingly offer God a place to exist, I can agree with him. (Dawkins 2006, 125- 134) However, in his entire chapter on arguments for God's existence, he has forgotten to mention one crucial argument: that many people believe in God and feel that this religious belief enables them to lead a good human life. This is clearly not an argument which can settle the debate over God's existence. There are also people—for example, in the postcommunist world—who assert that life without God is sufficient, even for a good moral life. Different life experiences and positions cannot determine what is true or false, but they can coexist in an atmosphere of mutual respect, despite these differences.

I will assert that an ethics of autonomy is necessary to criticize religious approaches to ethics. However, I am exceedingly aware that the concept of an ethics of autonomy or a secular (nonreligious) ethics does not adequately deal with a number of issues, issues, which, in my opinion, are crucial for the future.

Philosophical ethics does not generally respect the phenomenon of finiteness (finitude). There the talk of "contingency" is not talk of the same thing, and often means "coincidental," events which happen by chance and by accident. The anthropology of finiteness has been almost totally forgotten. If we want to optimize the human being, for example, it is inevitable that what we want to optimize, that is, the old, will actually determine what will be the new.

Also forgotten is the question of personal guilt. It is usually relegated to psychologists and psychoanalysts. The question of collective guilt was the last question related to guilt that was contemplated by certain philosophical schools. Forgiveness is most frequently relegated to theologians. Only a few philosophers, who are also physicians, discuss suffering.

Theological ethics is not justified by these "gaps" in philosophy. Its role in philosophical discourse is to direct attention to topics that are often dismissed or ignored, topics which are undeniably questions of the future as well. (Here German theologians often quote Jürgen Habermas and his reconstruction of the role of belief; however, Habermas argues as a philosopher who misses the religious content but insists that it be monitored by philosophical discourse.)

In the second part of my reflections I have chosen the question of prejudice as an example. Although this question is often broached with a polemic against religious faith like Dawkins' polemic, there are ample instances of prejudice without an underlying religious belief. The field of the biosciences and bioethics, in which I worked for more than twenty-five years, will serve as the context for my reflections.

## 5. Science and belief - a dialectical question. Preliminary thoughts on prejudice in the biosciences

Max Planck wrote (<sup>7</sup>1969, 248):

“If, therefore, in [...] many[...] cases belief proves to be that power which first leads the accumulated individual scientific data to real effectiveness, one may go even further and claim that beforehand, in the process of collecting the data, a foresighted and inquiring belief in the deeper interrelationships can actually be quite helpful. It shows the way to proceed and sharpens the senses. For a [...] researcher who follows his experimental protocol in the laboratory and carefully examines the accumulated data, the progress of the work [...] is facilitated in many cases by a certain, more or less clearly conscious, special intellectual conception, with which he designs his experiments and considers and interprets the obtained findings.”

That modern science—according to its own self-understanding—is without religious presuppositions does not mean that it does not require a preceding fantasy or an option formulated as extensively as a “belief,” as Max Planck has noted. Admittedly, this has critical limitations and must be realized through reflection. Above all, the nonreligious foundation of science is to be distinguished from an unnecessarily assumed criticism of religion. The literary scholar Peter von Matt has summarized this distinction concisely:

“There, too, where it seems the clearest, in the area of the strict sciences, for which there absolutely may not be theological implications, the departure from a theological, salvation-oriented worldview originally was not by any means carried out as an act of unbelief but as a purely scientific rule of procedure. This rule said that nature was to be investigated under disregard of the question of a Creator. This means science is to be conducted *as if* he were not to exist—'etsi Deus non daretur'—not, however, 'quia non datur,' *because* he does not exist.” (von Matt 2006, 245)

This distinction is to be kept in mind when quarrels arise between science and worldviews. It is possible that this dispute, seeing as to how it is continually restaged, repeatedly finds enough motives on both sides. In my opinion, it is unnecessary. It is wiser to keep science and belief distinct from one another. This, of course, means that when premises take on the dimensions of belief, they must be examined critically. It does not mean that presuppositions about belief, which do not affect the independence of the scientific method, must be combated.

## 6. Prejudices within the biosciences: Their expression in language and social consequences

Through several examples from the biosciences I will demonstrate how such prejudices enter the collective consciousness and, beyond this, can affect society. Here I am proceeding from the observation that offensive scientific policy-making prefers instruments of language politics, which explains why scientific prejudices often take on specific linguistic forms. How greatly negative prejudice attempts to influence the language of negotiations on scientific progress can be demonstrated on the example of “reproductive” cloning since approximately 1997. The ban on “reproductive” cloning is even included in the Charter of Fundamental Rights of the European Union. The background is as follows: This specific use of the expression “reproductive” first arose in 1997, as all the commissions were discussing “Dolly,” the cloned sheep. It entailed a shift in semantics. Until 1997, it was established that ovum and sperm cell each belong to the so-called “reproductive,” biological “substances.” The word “reproductive” thus began with egg cell and sperm cell, just as it is still included in the expression “reproductive medicine” today, which, of course, constitutes a fundamental technology in biotechnology. When we speak of reproductive medicine or “procreative” medicine (*Fortpflanzungsmedizin*), we mean the assisted fusion of egg and sperm cell in vitro. Thus, egg and sperm cell are reproductive. Behind the expression “'reproductive' cloning,” however, is the implicit assumption that ovum and sperm cell are no longer understood as being reproductive. “Reproductive” cloning signifies only the carrying to term after implantation in the uterus; a cloned embryo is carried to term following implantation. A ban on “reproductive” cloning, as specified in the UNESCO Universal Declaration on the Human Genome and Human Rights (1998), does not, then,

encompass the *in vitro* area. When reproductive cloning is prohibited, we have to read the subtext as well: the so-called “nonreproductive” cloning *in vitro* is not included. “Nonreproductive” cloning is the cloning of embryos without implantation, for example, for purposes of destructive embryo experimentation. When the Charter of Fundamental Rights of the European Union forbids reproductive cloning, the question of the right to life of embryos is left open at the same time in a subtext.

Negative structures of prejudice are also encompassed in the expression “‘therapeutic’ cloning.” In scientific communication in biomedicine the term *therapy* is widely used, although no therapy exists to date. “Therapeutic” cloning is cloning with a specific research intent, possibly with later consequences for therapeutic models. However, the actual steps leading to this goal are still unclear. One does not say what one knows but what one wants to know, in a way as if one already knows this. Cloning itself is not a therapy but a research procedure. The expression “‘therapeutic’ cloning” is thus a misrepresentation entailing a high degree of dishonesty. This is tolerated in the hopes of finding broader acceptance. Frequently, increasing acceptance is in turn—as in the present case—accompanied by increasing public pressure. A society in which, for example, the conviction, nourished by language politics, has gained acceptance that “therapeutic” cloning will with absolute certainty lead to a cure for diseases to date incurable, will do everything in its power to follow this path. That this path possibly could be unsuccessful is considered just as infrequently as the possibility that alternative strategies could eventually be equally promising and even less ethically questionable. This example illustrates how bioscientific prejudices can have adverse effects on society by blocking awareness of potentially better alternatives. (To avert this danger, the U.S. President's Council for Bioethics, for example, despite extensive differences in the ethical assessment, rejected the expression “‘therapeutic’ cloning” in a position paper in 2002 [“Human Cloning and Human Dignity: An Ethical Inquiry”] and replaced it with “cloning for biomedical research.”)

Distinctions in language are often just as significant as real images. This is well illustrated in the differentiation between *in vitro* and *in vivo*. One distinguishes “*in vitro*,” i.e., in the test tube or in the petri dish, where the embryo is exposed, from *in vivo*, which means “in life.” This is not to imply that *in vitro* is not a living being. But in the choice of words, in language which first explicitly names life outside of the test tube, one reinforces the prejudice that laboratory research merely involves biological material and not “real” life. Another example: In the European directive on patenting biotechnological inventions, mention is consistently made of “biological material,” although it is dealing with “life.” Animals and human genes, too, are part of this life, and, consequently, are not biological “material.” The total materialization of the concept of life is becoming widespread. For many this is only a “methodological” materialization, because they are otherwise incapable of recognizing and describing the relationships between cause and effect. If one asks what definition constitutes the foundation of the life sciences, the answer is: research on living systems or organisms. No probing questions are asked: for example, how do organisms differ? As long as this specific theoretical language of the life sciences is methodological, as long as it recognizes its own relativity within the context of the various disciplines and approaches, it is not problematic. But if this language becomes a dominant paradigm for the language about “life” and if we derive our comprehension of life in general from this, we have every reason to reflect seriously on this tendency.

Here, too, is ultimately the level where one encounters talk of the embryo as a “mere heap of cells,” a representation not uncommon in the biosciences. If one has a “transcendental” conception of the individuality of the human being, which precedes every assessment and every empirical qualification, then the question whether one can see some aspect of this in the embryo is secondary. Decisive are instead arguments of the potentiality, continuity, and identity of the single human life. People ask, for example: What does the embryo, which I developed from, have to do with me? A disabled person, to whom one says that one would like to choose an embryo because he or she has the same disease or impairment, replies: “Then you would have chosen ‘me.’” The question whether the disabled are discriminated against through such a selection in the test tube is controversial and calls for a separate discussion. (Cf. van den Daele 2002.) The continuity evoked in the answer of the disabled person, on the other hand, is recognized everywhere purely intuitively. Questioned about immune defense in the context of the implantation of stem cells derived from a human being's own body material, a stem cell researcher participating in one of the many ethically controversial debates on *in vitro* cloning told me: “Naturally, the immune defense of the human being is activated, it's a foreign individual, of course.”

This is a spontaneous answer without much thought, and is precisely for this reason illuminating. What is meant are the genetic resources in the so-called “mitochondria,” inside a foreign egg cell membrane, which one also needs in cloning technology, although this strives for the replication of a person's own cells for the regeneration of organs.

If every human living thing as “human being” has the right to human dignity, ethicists can still argue over gradualist positions, diminishing the chances of a totally convincing argument here, but it is possible to rule out the designation of an embryo capable of such a high degree of differentiation as a “mere heap of cells.” Nor is this correct under premises that want to disallow every metaempirical definition of the human being. When an embryologist answers the question as to when human life actually begins with the flippant remark: “When I can see the nose,” then he or she has reduced the biological phenomena to an external impression. This is consistent with an extensive prescientific tradition. (Cf. Willam 2007, Rager 2006, and Hilpert/Mieth 2006.)

## 7. Responsibility for progress in the sciences

What does progress actually signify? What constitutes a scientific advance? Accountability for progress in every scientific advance

To speak of single scientific advances, of progressive steps (*Fort - Schritte*) is a subtle suggestion to seriously consider once more what progress (*Fortschritt*) actually means. From the perspective that essentially everything new is better than the old, progress has more or less become a global model which has deeply ingrained itself in our society as a “progress mentality.” Much is packed into this model, for example, the alliance of modern society with science, technology, and economy. It almost seems as if this alliance is irrevocable, since it is the precondition for progress so comprehended and the means that produces this progress. But does progress really exist in this generalizing singularity? Or is progress as a general idea a prejudice? Are there only single scientific advances toward progress? Progress as a whole is conceivably a promise of the modern age, during the course of which technological progress has always been considered social and cultural progress at the same time. There is, however, adequate opportunity for reexamining this promise retrospectively, namely, so that single scientific advances are individually scrutinized on the basis of their effects on society as a whole.

What single scientific advance is truly worthy of being called a step toward progress? How can progress be measured? Are the valid criteria here the advances in knowledge within the previously established framework of a scientific paradigm? Or are the valid criteria those of technological feasibility or those of economic viability? Or perhaps the criteria of compatibility with human, social, intellectual achievements? This topic has already become universally significant in the context of the central concept of sustainability. Thus, it is a good therapy for the prejudice associated with general conceptions of progress to unwrap the “progress” package and not to ask whether it is a matter of progress in the sense of a general trust or even belief in progress, but how the assessment of proposed or already initiated scientific advances might look in the individual case. The transition from single scientific advances to problematic generalizations is always to be examined individually.

## 8. Truthfulness and transparency instead of the normative power of the fictive

Whoever works with scientific exactitude does not deny the uncertainty of the attainability of options in insight and in application, the simultaneous ongoing awareness of the unknown ensuing from more exact knowledge, and the long stretch ahead to the attainment of this uncertain goal. The great degree to which this is overlooked in the momentum of a new paradigm became clear to me in an exemplary incident related to “gene therapy” as early as 1989, when I had the opportunity as a member of a group of representatives from Catholic universities to speak with the renowned haematologist French Anderson about experiments in “gene therapy” at the National Institutes of Health (NIH) in Washington, DC. Immediately striking was the discrepancy between the posters mentioning therapies for AIDS, cancer, and immunodeficiency, and the laboratory experiments centring on mouse blood. Consequently, I attempted—as a layperson—to imagine a scenario, which establishes a scale from 1 to

100, the number 100 designating the actual attainment of a therapy. At that time, I envisioned, with regard to so-called gene therapy—similar to today, with regard to stem cell research—colossal adventures awaiting science. My question then was to what extent and with what degree of accuracy, given that laboratory experiments at that time attained 1 to 5 on this scale, a prediction for the achievability of 100 could be made. The answer was: “I don't know, but I do believe it's possible.” Here a curious contradiction is evident: between the presuppositions of belief which science criticizes and the presuppositions of belief which it considers imperative for progress in knowledge. A criticalness, which does not put its own house in order but points to the prejudices (prejudgments) of others, ultimately cannot be convincing.

It is obvious that a potential development of research cloning on human beings also entails great reservations: in the speculative application of animal experimentation on human beings we cannot predict that healthy cells, if we implant them in a diseased organ, can make this organ healthy again. The great hopes for therapeutic cell transplantation rest on shaky foundations, which collapse again and again. In a time period in which we are conducting initial experiments in the areas of animal cells or initial experiments in the area of human cells, are we capable of predicting that we will actually attain a “therapy”? And that there are no alternatives to this way? (Bentele 2007) Apparently not.

## 9. Freedom and responsibility in science: The problem of prejudice

Freedom of research as well as the freedom of the individual researcher from external influence must be guaranteed. Freedom does not relieve one of responsibility but *is* an essential precondition for its acceptance. This is why the question is justified how free research is or can be at all, if it is dependent on astronomically expensive apparatus and equipment as well as on the choice of a research topic currently being funded. One cannot compare an abstract conception of the freedom of research with concrete conceptions of ethical obligations in research. Instead, the obligations must be critically scrutinized in many respects in order to examine which obligation of this kind contradicts which obligation of that kind. The objection will be raised that with technical and financial limitations in research, there is more choice than in the adherence to ethical restrictions, which can be imposed by law. This choice, too, is to be analyzed for dependencies. And the power of emotional and quasi-metaphysical research expectations also constitutes a considerable limitation.

Responsibility in research possesses an internal and an external dimension. Internal scientific responsibility means that rules of independence, fairness, and scientific integrity are observed and monitored by the scientific community via internal rules. There, the freedom of conscience of the individual, and that of the dependent researcher as well, must continue to be ensured. External scientific responsibility means that the modes and consequences of research are ethically tenable for all directly and indirectly affected persons and are open to examination by society. However, external responsibility can hardly be exercised alone within the research discipline. Even in transdisciplinary research, there is often a lack of auxiliary competence, which is why research programs in the EU member countries and in other countries are often announced with supplementary ethical, legal and social expertise (the ELSA concept: ethical, legal and social aspects) This requires the combination of highly professional and, at the same time, ethically reflective competence. Augmentation of this competence through the broad experience of religion with its own prejudicial structures—recommended by an EU conference on bioethics in Amsterdam at the beginning of 2005—seems thoroughly appropriate in light of our considerations. (Cf. Mieth 2006.)

## 10. Conclusion: Overcoming prejudice as the lack of self-examination and as the incapacity for correction

Prejudice in a negative sense means prereflectivity and the incapacity for correction. Therapy cannot be found in radically rejecting prejudices and aggressions as such but only in analyzing the basic anthropological patterns and in consciously revoking the structures of decline in prejudice, which, incapable of self-correction, practice constant self-affirmation. Thus, therapy can only begin with the recognition and acknowledgment of our prejudicial structure, on the one hand, and, on the other hand,

with the rejection and exposure of the self-affirming prejudice incapable of correction, impacting or at least lessening its effectiveness.

Modern science is associated with the effort to fight prejudices and to avoid their potential generation through pressure for methodologically transparent action. The models with which this effort was theoretically formulated are worthy of respect, even though the discourse on the verification and falsification of scientific insights will continue. The problem of prejudice, however, is unrelated to this monitored search for truth in science and is not resolved by it. It is, however, present in scientific practice. Accordance of scientific practice with the fundamental theoretical presuppositions to which one subscribes is one of the ethical stipulations for responsible science.

The nucleus of prejudicedness in scientific practice is based on the assertion that because science as such does not exist under the spell of prejudice, options and prognoses can also be proclaimed in its name, which tend to have either a selective and discriminatory character, by measuring the prejudicedness of others on their own imagined unprejudicedness, or a prophetic rather than a scientific character. Since, however, anticipation is integral to knowledge, it is imperative to not only examine the coherence with which insights in this framework arise, but also the contingency of one's own anticipatory paradigm. Science, which frees itself from the binding character of its conclusions and extrapolates these conclusions by means other than those of scientific inquiry, confuses the categories, above all, if it attempts to influence social conditions and social responsibility.

In his best-selling book *The God Delusion* Dawkins bases his polemical attack on certain well-known, morally reprehensible actions and moral catastrophes in the history of (Western) religion. He posits an “authoritarian fallacy”: whoever speaks with authority on moral questions is always wrong, independent of his or her arguments! He makes no distinction between a lack of rational justification (which is to be criticized) and a morally wrong instruction. Ultimately, Dawkins epitomizes a prejudice purporting to be a scientific explanation, which is actually a presupposition.

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